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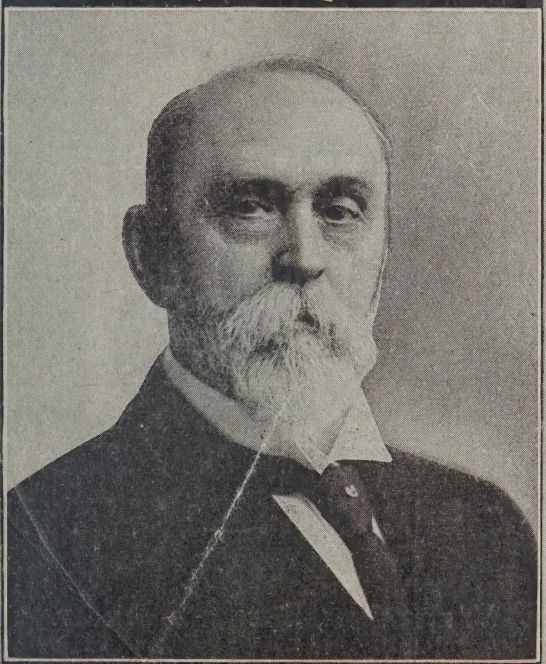

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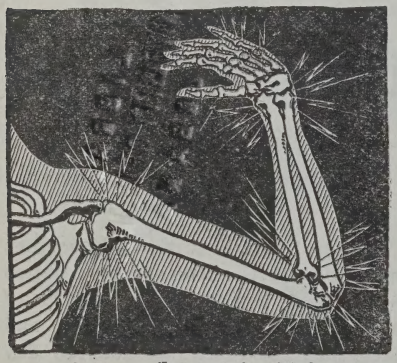

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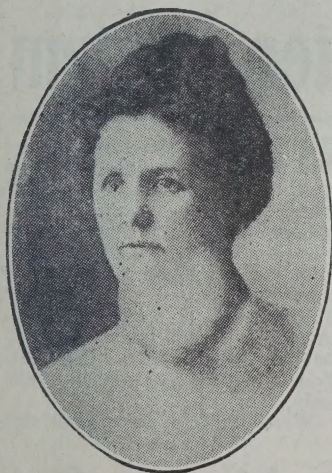

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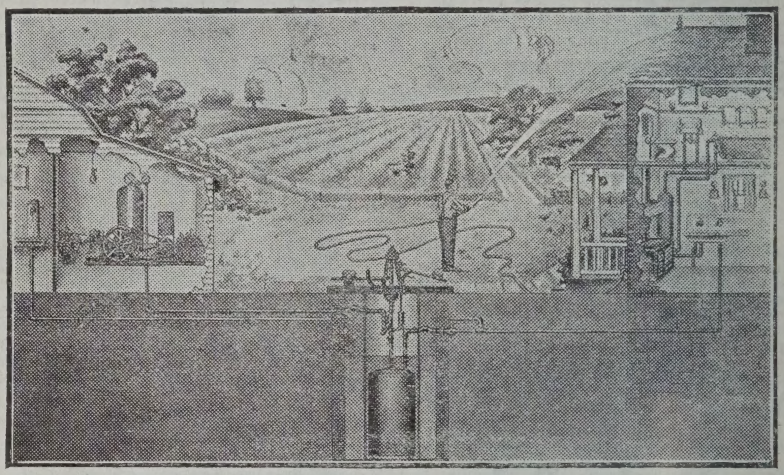

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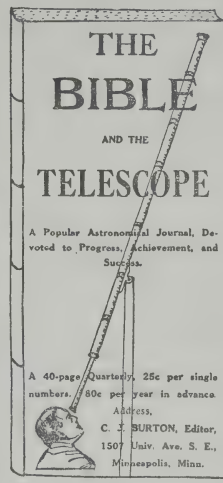

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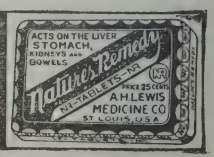

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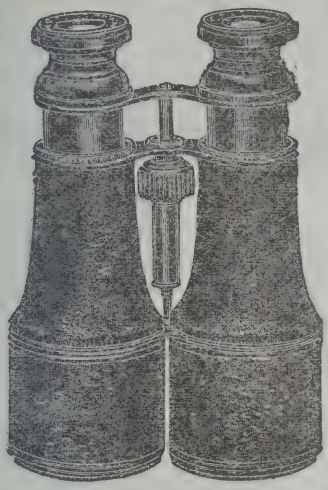

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The perfected Philo Burt Appliance will positively cure any case that is curable and straighten any crooked spine that can be straightened. It gives firmer and more natural support to the spine than any torturing, unsanitary, old-style brace made of steel, iron, leather, plaster of paris, etc., and yet is as yielding, soft and comfortable as an ordinary corset. Goes on and off like a coat and cannot be detected under the clothing. It not only relieves and strengthens, but has accomplished many amazing cures. Let us send you sworn proof.

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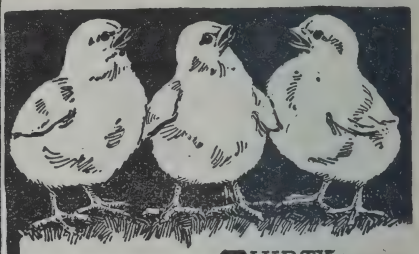

THIRTY years of experience are back of Chamberlain's Perfect Chick Feed. Contains everything in the food line the baby chicks require.

Builds up bone, feathers and solid meat, and gives strength and vitality for the first weeks of frail chick existence.

No corn — no bowel trouble

At your grocer's or feed store

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St. Louis, Mo. 3

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PERFECT
CHICK FEED

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Five years ago, practically without capital, J. G. Tufford, Elyria, Ohio, and his associates Smith and Ingwer started business with the now well-known I. T. S. Rubber Heel under the Tufford U. S. and foreign patents obtained through Lacey & Lacey.

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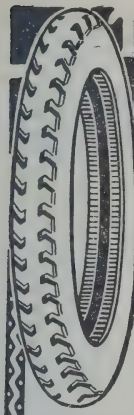

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31x4	10.20	36x4½	13.75
32x4	10.55	35x5	14.50
33x4	11.00	37x5	14.90

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"After many discouraging years of suffering from stomach trouble and bloating, in which I could eat only sparingly of the simplest food, I am now feeling entirely well. Thanks to Mayr's Wonderful Remedy which has done wonders for me. I can now eat like a wood chopper and enjoy it." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will convince or money refunded. Sold by "Druggists Everywhere."

Carefully Selected First Mortgages

Both Farm and City Loans from the Most Favored Sections of Kansas.

Yielding 7 per cent

For over forty years we have made a specialty of Mortgage Investments and have a large list of satisfied customers many of whom have been with us for a quarter of a century. **$25.00 Savings Certificates.**

Interest remitted promptly each six months. No losses. No delays. A large list of loans always on hand to select from.

Interest allowed from date of receipt of draft.

Write for booklet and loan list No. 800.

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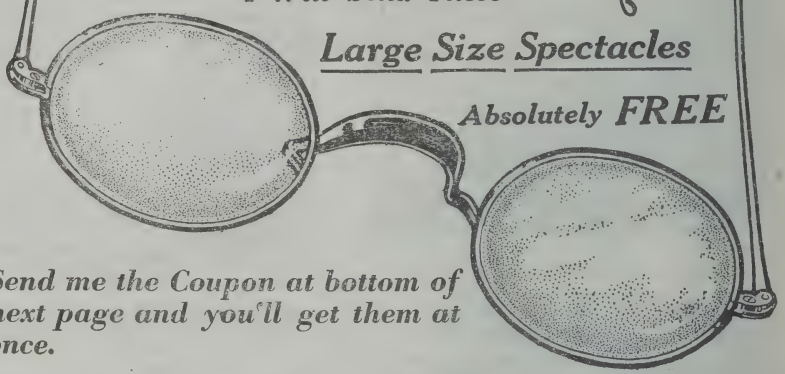
I Will Send These

Large Size Spectacles

Absolutely FREE



Send me the Coupon at bottom of next page and you'll get them at once.

THIS is a straight-from-the-shoulder proposition that every man and woman should take advantage of right this very minute.

I claim that my Large Size **"Perfect Vision"** glasses will enable you to easily thread the needle in your sewing machine as well as the smallest-eyed needle you ever use—read the finest print—to see far or near—also to protect your eyes and prevent eye strain and eye pain, which usually cause headaches.

Furthermore, I claim that my Large Size **"Perfect Vision"** 10-Karat, gold-filled Spectacles are the best and the most handsome looking you have ever seen. So don't strain your eyes any longer, just fill out the coupon on the bottom of the next page and send it in to me and I will send you a pair of my Large Size **"Perfect Vision"** Gold-Filled Spectacles at once without a cent of money or even a reference.

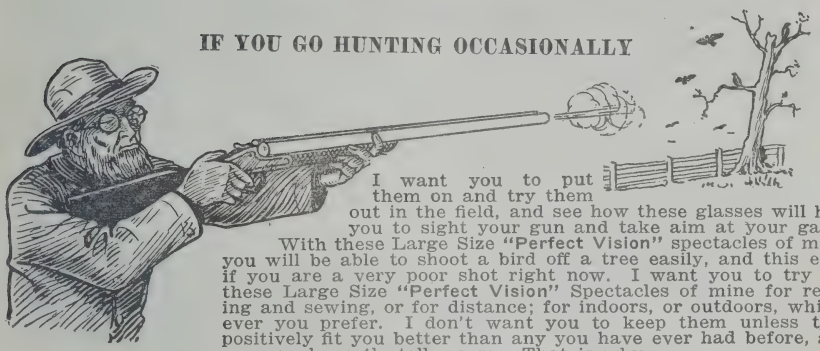
I know that once you try them you will not want to part with them at any price, and I am ready to trust to your honest judgment, so that you can also recommend them to your friends.

(Continued on next page.)

THESE GLASSES OF MINE

will enable you to read the finest print or shoot a bird off a tall tree

IF YOU GO HUNTING OCCASIONALLY



I want you to put them on and try them out in the field, and see how these glasses will help you to sight your gun and take aim at your game. With these Large Size **"Perfect Vision"** spectacles of mine, you will be able to shoot a bird off a tree easily, and this even if you are a very poor shot right now. I want you to try out these Large Size "Perfect Vision" Spectacles of mine for reading and sewing, or for distance; for indoors, or outdoors, whichever you prefer. I don't want you to keep them unless they positively fit you better than any you have ever had before, and you can honestly tell me so. That is why

I Don't Want You To Send Me A Cent So You Have Nothing To Lose.

Sit down right now—this very minute—and fill out the coupon below at once; let Uncle Sam deliver into your own hands, at your own door, a pair of my 10-Karat, Gold-filled, Large Size **"Perfect Vision" Spectacles,** in a handsome velteen-lined, spring-back, Pocket-book Spectacle Case, for you to try fully ten days absolutely free. Fill in this coupon and mail it to me at once.

ST. LOUIS SPECTACLE HOUSE, Room 10, ST. LOUIS, MO.

I herewith enclose this coupon, which entitles me, by return mail, to a pair of your 10-Karat, Gold-filled, Large Size **"Perfect Vision"** Spectacles complete, also a fine leatherette, velteen-lined, spring-back, pocket-book spectacle case, without a cent of cost to me, so that I can try them out, under your own offer, of a full ten days' actual test. This free trial is not to cost me one penny, and if I like the glasses and keep them, I am to pay you $2.15 only—no more and no less. But if, for any reason whatsoever, I don't wish to keep them (and I, myself am to be the sole judge), I will return them to you without paying you a single cent for them, as you agreed in the above advertisement to send them on ten days' absolutely free trial. With this understanding I mail you this certificate, and it is agreed that you will stick to your word and I will stick to mine. **Don't fail to answer the following questions:**

How old are you?.....How many years have you used glasses (if any)?.....

Name .....

Post Office .....

Rural Route..... Box No..... State.....

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The Pathfinder

THE GIST OF THE WORLD'S NEWS IN A NUTSHELL

ENTERED AS SECOND-CLASS MATTER JANUARY 10, 1894, AT THE POST OFFICE AT WASHINGTON, D. C., UNDER THE ACT OF MARCH 3, 1879.

TWENTY-EIGHTH YEAR | WASHINGTON, D. C., JANUARY 1, 1921. | NUMBER 1409.

The Whole World in Review

ONCE more the league of nations has forged to the front as the real issue of the campaign. "Slush funds" and other [illegible] temporarily [illegible] had th[illegible] passed [illegible] will be [illegible] whether [illegible] with Cox [illegible] Idaho. U[illegible] states of [illegible] Johnson, [illegible] league, [illegible] his suppor[illegible] and took [illegible] sail the "[illegible] chy" respo[illegible] rejection. [illegible] time Hardi[illegible] opposition [illegible] more pronc[illegible] sounded out[illegible] phatically th[illegible] slogan of "An[illegible] On Constitutio[illegible] 17, the senator[illegible] about 5000, [illegible] audience yet [illegible] at Marion, and [illegible] his longest speec[illegible] ed the question[illegible] shall it be—the[illegible] tion of the Unite[illegible] or the covenant[illegible] league of nations[illegible] posed by Preside[illegible] son?" Giving h[illegible] answer to the que[illegible] said: "Before enter[illegible] the execution of [illegible] fice, if you elect me[illegible] your president, I sh[illegible] emnly to swear tha[illegible] of my ability preser[illegible] fend the constitutio[illegible] States. I take that o[illegible] trymen." Praising Senator Harding said[illegible] model of every const[illegible] mulated by civilized [illegible] produced in six mon[illegible] meet an impending cris[illegible] soundly conceived and[illegible] framed that its provis[illegible] the actual governmental[illegible] 000,000 of people 133 y[illegible] event. "It provides for [illegible] ment of free men," he s[illegible] there is freedom of tho[illegible] pression, freedom of wor[illegible] of action within the law [illegible] of others. Under it there [illegible] for revolt, no necessity to [illegible] lence." The senator decla[illegible] constitution had not fail[illegible] all these [illegible]

[illegible] at this moment requires the presence of no less than 3000 of our armed [illegible] domination

[illegible] at foreign soil." In answer [illegible] large Franklin D. Roosevelt [illegible] Republican candidate a tele[illegible] which he said that there had [illegible] to his mouth "alleged state[illegible] the votes in the league of [illegible] Haiti and Santo Domingo [illegible] already publicly denied [illegible] which denial was printed [illegible] ling newspapers." He de[illegible] he action of the govern[illegible] oring order in the two [illegible] taken with the knowl[illegible] edge of everybody, and [illegible] that the senate made no [illegible] protest. "Such a state[illegible] ment as that," he assert[illegible] d, "is the merest dribble. [illegible] d if Senator Harding [illegible] ade it he did it in an [illegible] parently deliberate at[illegible] pt to deceive." Sec[illegible] ary of State Colby lat[illegible] ssued a statement say[illegible] that the government [illegible] d soon to withdraw [illegible] roops out of Haiti [illegible] let the people there [illegible] e control of their [illegible] . The United States [illegible] terfered in Haiti, [illegible] id, because there [illegible] en a chronic con[illegible] of revolt and law[illegible] there, and he [illegible] President Roose[illegible] pproving the pol[illegible] ntervention. He [illegible] d Senator Hard[illegible] tements as cam[illegible] . Gov. Cox was [illegible] take advantage [illegible] he plan for a [illegible] on XIV of the [illegible] ch plan Elihu [illegible] n, was one of [illegible] Salt Lake City [illegible] time between [illegible] inst Senator [illegible] praising the [illegible] eclared was [illegible] l dependent [illegible] that the new [illegible] Harding's [illegible] for casting [illegible] es and the [illegible] to prevent [illegible] l history." [illegible] cement of [illegible] midst of the [illegible] providential and felt that his position on the league issue was immensely strengthened. "It is unthinkable," he declared, "that a God-fearing nation like the United States should re-

Tremendous Value For a Dime

THE PATHFINDER, LEADING WEEKLY MAGAZINE OF NATION'S CAPITAL, MAKES REMARKABLY ATTRACTIVE OFFER.

Washington, D. C. (Special).—An unusual offer is being made by the editor of the Pathfinder to send the paper to new readers 8 weeks for 10 cents. This well-known national weekly magazine contains all the worth while news of the world, illustrated and presented in a most entertaining manner. It is clean, sincere, non-partisan, reliable—well printed in large type. It puts everything clearly, fairly and briefly.

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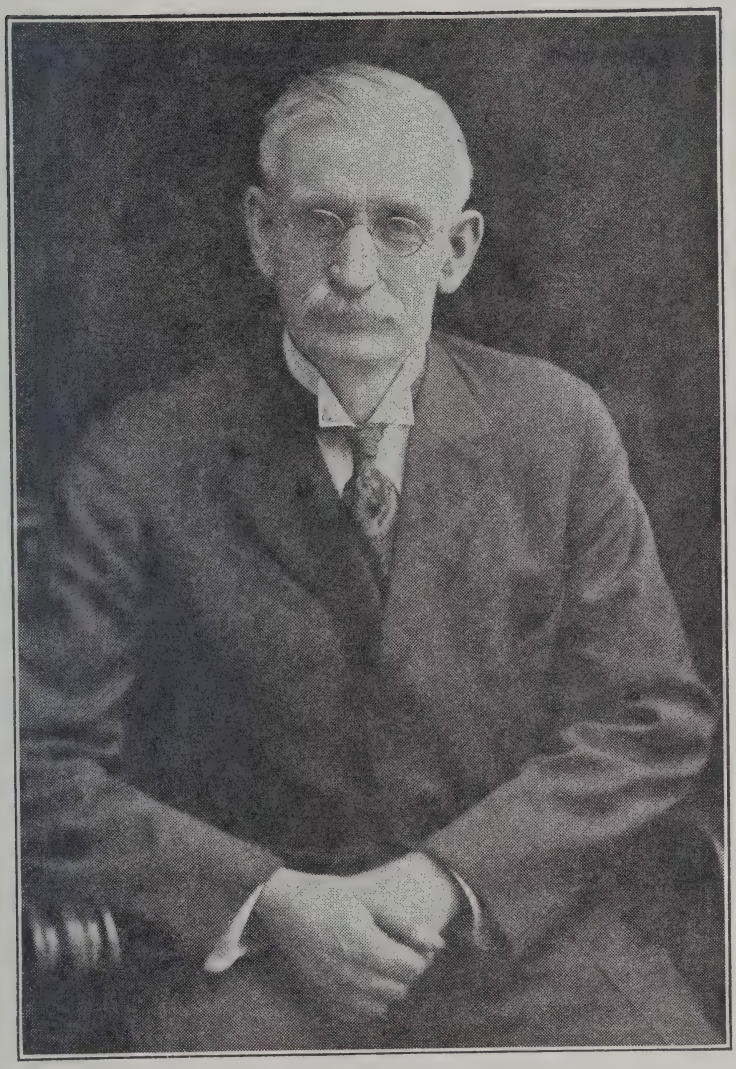

JOHN B. NOYES,

Successor to REV. IRL R. HICKS

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The Rev. Irl R. Hicks

WEATHER BOOK

(The Hicks Almanac)

1921

Established in 1894 by Rev. Irl R. Hicks. Published annually by Prof. Hicks until his death in 1916.

The Almanac, now more frequently referred to as "the Weather Book" has been written by J. B. Noyes since the death of Prof. Hicks. The accuracy of the forecasts—the correctness as to time, location, etc., of storms and earthquakes indicate how well Mr. Noyes has mastered the science introduced by Mr. Hicks.

HICKS ALMANAC & PUBLISHING COMPANY
3401 FRANKLIN AVENUE
ST. LOUIS, MO.

INTRODUCTION

The first Rev. Irl R. Hicks Almanac was pubilshed for 1894. Hence we are called upon now to put out the twenty-seventh edition. Prof. Hicks was at the helm until October 12th, 1916, when he passed away from earth life. For several years previous to his death, he had been assisted by John B. Noyes, both as editor of the monthly magazine, Word and Works, and for work on the Almanac. At the death of Prof. Hicks, Mr. Noyes and Irl R. Hicks Jr. finished the 1917 almanac, and together got out the 1918 almanac. Then Irl R., Jr., joined the navy and Mr. Noyes, in company with a partner, took over the entire business of the Word and Works Publishing Company and has carried on the work ever since, writing the weather forecasts and the almanac.

Thus the last four almanacs have been the work of Mr. Noyes. It was no small undertaking, that of stepping into the shoes of the greatest weather forecaster the world had produced, but we are truly grateful to the public, and for the sustaining grace of God for the success which has been ours. Many scores have written that the last three almanacs have been the most interesting and accurate of any that have been published.

We have continued the portrait of Rev. Irl R. Hicks on the front cover for identification purposes and as a mark of respect for the founder, by special arrangement with his family and the company he also founded. We have done our best to credit all that rightfully belongs to the memory of Rev. Hicks' work, but some have seemed to understand that some of the work of the last three almanacs was that of Rev. Hicks or his son, Irl R., Jr. But this work has been entirely by Mr. Noyes, and we expect to continue the work for some years to come. We could change the name of the almanac if we chose, or discontinue its publication at our will.

We intend, however, to continue the publication of this famous "Weather Book" in much of its present form and scope. We have computed the weather forecasts and astronomical work this year with special care and we send it out in the faith that it will meet all former accuracy and values. It is unique, being the only book of its kind in the world. There may be a few imitators, but their plagiarism is too transparent to deceive anyone who reads our work.

If any insist on sitting down in their own dooryard and imagining that it is **the world,** they will be disappointed with the forecasts we compute—our field is larger than that. Be reasonable, be logical, be sensible, be a student of nature, and you will find added value to our work from year to year.

We place this edition of the Weather Book in the hands of our thousands of friends with confidence that it will prove of more value to them than the small price it costs. We are grateful to all whose kind words and acts and faithful work have helped us on with our tasks. May God's blessing rest upon you all.

HICKS ALMANAC AND PUBLISHING COMPANY.

St. Louis, Mo., September 1st, 1920.

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1921 1921

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ECLIPSES FOR THE YEAR 1921.

In the year 1921 there will be four eclipses, two of the Sun and two of the Moon.

I.—AN ANNULAR ECLIPSE OF THE SUN, April 7, 1921, invisible at Washington.

II.—A TOTAL ECLIPSE OF THE MOON, April 21, 1921, visible at Washington; the beginning visible generally in North America, South America, the Atlantic Ocean and the Pacific Ocean; the ending visible generally in North America, South America, Australia, the Pacific Ocean, and the eastern portion of Asia.

CIRCUMSTANCES OF THE ECLIPSE.
Central Time, St. Louis, Mo.

	d.	h.	m.	
Moon enters penumbra	April 21,	10	57.3	P. M.
Moon enters umbra	April 22,	12	3.2	A. M.
Total eclipse begins	April 22,	1	23.5	A. M.
Middle of the eclipse	April 22,	1	44.4	A. M.
Total eclipse ends	April 22,	2	5.2	A. M.
Moon leaves umbra	April 22,	3	25.7	A. M.
Moon leaves penumbra	April 22,	4	32.5	A. M.

Magnitude of the eclipse=1.074 (Moon's diameter=1.0).

III.—A TOTAL ECLIPSE OF THE SUN, September 30—October 1, 1921, invisible at Washington.

IV.—A PARTIAL ECLIPSE OF THE MOON, October 16, 1921, visible at Washington; the beginning visible generally in Asia except the eastern portion, Europe, Africa, the eastern part of South America, the Indian Ocean, and the Atlantic Ocean; the ending visible generally in western Asia, Europe, Africa, South America, and North America except the extreme western part, the Atlantic Ocean, and western part of the Indian Ocean.

CIRCUMSTANCES OF THE ECLIPSE.
Central Time, St. Louis, Mo.

	d.	h.	m.	
Moon enters penumbra	October 16,	2	1.2	P. M.
Middle of the eclipse	October 16,	4	53.8	P. M.
Moon leaves penumbra	October 16,	7	46.3	P. M.

Magnitude of the eclipse=0.938 (Moon's diameter=1.0).

MORNING STARS, WEST OF SUN.

Mercury: January 1 to January 16; March 2 to May 10; July 7 to August 23; October 31 to December 27.
Venus: April 22 to end of year.
Mars: June 29 to end of year.
Jupiter: January 1 to March 4; September 22 to end of year.
Saturn: January 1 to March 12; September 21 to end of year.
Uranus: February 24 to August 31.

EVENING STARS, EAST OF SUN.

Mercury: January 16 to March 2; May 10 to July 7; August 23 to October 31; December 27 to end of year.
Venus: January 1 to April 22.
Mars: January 1 to June 29.
Jupiter: March 4 to September 22.
Saturn: March 12 to September 21.
Uranus: January 1 to February 24; August 31 to end of year.

BRIGHTEST, OR BEST SEEN.

Mercury, as Morning Star, at its Greatest Western Elongation: March 30; July 28; November 16. Mercury, as Evening Star, at its Greatest Eastern Elongation: February 15; June 10; October 7.
Venus: As Evening Star, March 16; as Morning Star, May 28.
Mars: January 1 and December 31.
Jupiter: February 18 to March 14.
Saturn: March 2 to March 22.
Uranus: August 1 to September 30, when the planet will be visible to the naked eye, its approximate location being 22 hours, 38 minutes Right Ascension, and 9 degrees, 29 minutes South Declination, in the constellation Aquarius.

INVISIBLE, OR VERY DIM.

Mercury: At all other times than those given above, when as Evening Star or Morning Star.
Venus: April 5 to May 1.
Mars: June 5 to July 20.
Jupiter: August 28 to October 16.
Saturn: August 27 to October 17.
Uranus: Practically invisible at all other times than those given above.
Neptune: Always invisible to the naked eye.
All-Night Stars: Mars in June; Jupiter in September; Saturn in September; Uranus in August.

THE SEASONS, CENTRAL STANDARD TIME.

Sun enters the sign Capricornus, December 21, 1920, 9:17 p. m., and winter begins. Lasts 89 days, 0 hours, and 34 minutes.
Sun enters the sign Aries, March 20, 1921, 9:51 p. m., and spring begins. Lasts 92 days, 19 hours, and 45 minutes.
Sun enters the sign Cancer, June 21, 5:36 p. m., and summer begins. Lasts 93 days, 14 hours, and 44 minutes.
Sun enters the sign Libra, September 23, 8:20 a. m., and fall begins. Lasts 89 days, 18 hours, and 48 minutes.
Sun enters the sign Capricornus, December 22, 3:08 a. m., and winter begins.
Length of tropical year from winter solstice of 1920 to winter solstice of 1921, 365 days, 5 hours, 51 minutes.

ANNIVERSARIES AND FESTIVALS, 1921.

New Year's Day	Saturday,	Jan. 1.
Epiphany	Thursday,	Jan. 6.
Septuagesima Sunday	Sunday,	Jan. 23.
Quinquagesima (Shrove Sunday)	Sunday,	Feb. 6.
Ash Wednesday	Wednesday,	Feb. 9.
Lincoln's Birthday	Saturday,	Feb. 12.
Washington's Birthday	Tuesday,	Feb. 22.
Palm Sunday	Sunday,	Mar. 20.
Good Friday	Friday,	Mar. 25.
Easter Sunday	Sunday,	Mar. 27.
First Day of Passover	Saturday,	Apr. 23.
Rogation Sunday	Sunday,	May 1.
Ascension Day	Thursday,	May 5.
Pentecost (Whit Sunday)	Sunday,	May 15.
Trinity Sunday	Sunday,	May 22.
Corpus Christi	Thursday,	May 26.
Memorial Day	Monday,	May 30.
Hebrew Pentecost (Shebuoth)	Sunday,	June 12.
Independence Day	Monday,	July 4.
Labor Day	Monday,	Sept. 5.
Hebrew New Year (Rosh Hashanah)	Monday,	Oct. 3.
Columbus Day	Wednesday,	Oct. 12.
Day of Atonement (Yom Kippur)	Wednesday,	Oct. 12.
First Day of Tabernacle (Sucoth)	Monday,	Oct. 17.
Election Day (in certain States)	Tuesday,	Nov. 8.
Thanksgiving Day	Thursday,	Nov. 24.
First Sunday in Advent	Sunday,	Nov. 27.
Christmas Day	Sunday,	Dec. 25.

Day Month	DAY OF WEEK	NORTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets	SOUTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets
		A. M.	P. M.	A. M.	A. M.	A. M.	P. M.	A. M.	A. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Saturday	7 38	4 29	12 26	11 45	7 08	4 59	12 14	11 55
									P. M.
2	**Sunday**	7 39	4 30	1 28	P. M.	7 08	5 00	1 14	12 32
3	Monday	7 39	4 31	2 30	12 56	7 08	5 01	2 12	1 10
4	Tuesday	7 39	4 32	3 31	1 27	7 09	5 01	3 08	1 50
5	Wednesday	7 38	4 33	4 27	2 08	7 09	5 02	4 02	2 33
6	Thursday	7 38	4 34	5 20	2 53	7 09	5 03	4 51	3 19
7	Friday	7 38	4 35	6 08	3 43	7 09	5 04	5 38	4 09
8	Saturday	7 38	4 36	6 51	4 06	7 09	5 05	6 26	5 01
9	**Sunday**	7 38	4 37	7 29	5 32	7 09	5 06	7 08	5 53
10	Monday	7 38	4 38	8 04	6 30	7 09	5 07	7 45	6 49
11	Tuesday	7 37	4 39	8 31	7 29	7 09	5 08	8 20	7 40
12	Wednesday	7 37	4 40	9 02	8 28	7 08	5 08	8 53	8 35
13	Thursday	7 36	4 42	9 30	9 28	7 08	5 09	9 23	9 30
14	Friday	7 36	4 43	9 57	10 29	7 08	5 10	9 52	10 24
15	Saturday	7 35	4 44	10 24	11 32	7 08	5 11	10 30	11 24
16	**Sunday**	7 35	4 45	10 53	A. M.	7 08	5 12	11 04	A. M.
17	Monday	7 34	4 46	11 26	12 36	7 08	5 13	11 39	12 23
18	Tuesday	7 34	4 46	P. M.	1 38	7 07	5 14	P. M.	1 25
19	Wednesday	7 33	4 49	12 48	2 51	7 07	5 15	1 10	2 28
20	Thursday	7 32	4 50	1 41	3 57	7 06	5 16	2 07	3 31
21	Friday	7 31	4 52	2 42	5 00	7 06	5 17	3 10	4 33
22	Saturday	7 31	4 53	3 51	5 57	7 05	5 18	4 14	5 32
23	**Sunday**	7 30	4 55	5 08	6 47	7 04	5 19	5 17	6 29
24	Monday	7 29	4 56	6 25	7 30	7 01	5 20	6 38	7 15
25	Tuesday	7 28	4 57	7 41	8 09	7 04	5 21	7 48	7 59
26	Wednesday	7 27	4 59	8 55	8 42	7 04	5 22	8 56	8 39
27	Thursday	7 26	5 00	10 06	9 15	7 03	5 23	10 01	9 17
28	Friday	7 25	5 02	11 15	9 46	7 02	5 24	11 03	9 57
29	Saturday	7 24	5 03	A. M.	10 18	7 02	5 25	A. M.	10 32
30	**Sunday**	7 23	5 06	12 20	10 52	7 01	5 26	12 04	11 10
31	Monday	7 22	5 06	1 34	11 28	7 00	5 27	1 01	11 58

	Day	Hour	Min.	
New Moon	8	11	27	P. M. Central Time
First Quarter	17	12	31	A. M. Central Time
Full Moon	23	5	08	P. M. Central Time
Last Quarter	30	2	02	P. M. Central Time

Day Month	DAY OF WEEK	NORTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets	SOUTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Tuesday	7 21	5 07	2 24	12 08	7 00	5 28	1 57	12 33
2	Wednesday	7 20	5 09	3 15	12 51	6 59	5 29	2 49	1 17
3	Thursday	7 18	5 10	4 04	1 36	6 58	5 30	3 38	2 05
4	Friday	7 17	5 12	4 59	2 32	6 57	5 31	4 24	2 55
5	Saturday	7 16	5 13	5 29	3 24	6 56	5 32	5 09	3 48
6	**Sunday**	7 15	5 14	6 05	4 12	6 55	5 33	5 45	4 42
7	Monday	7 13	5 16	6 38	5 22	6 55	5 34	6 24	5 35
8	Tuesday	7 12	5 17	7 07	6 21	6 54	5 35	6 56	6 32
9	Wednesday	7 11	5 19	7 35	7 20	6 53	5 36	7 28	7 25
10	Thursday	7 09	5 20	8 02	8 23	6 52	5 37	8 00	8 23
11	Friday	7 08	5 22	8 29	9 25	6 51	5 38	8 32	9 19
12	Saturday	7 06	5 23	8 50	10 28	6 50	5 39	9 07	10 17
13	**Sunday**	7 05	5 24	9 28	11 32	6 49	5 40	9 43	11 16
14	Monday	7 04	5 26	10 04	A. M.	6 48	5 41	10 22	A. M.
15	Tuesday	7 02	5 27	10 44	12 38	6 47	5 42	11 06	12 05
16	Wednesday	7 01	5 29	11 29	1 42	6 46	5 43	11 58	1 17
17	Thursday	6 59	5 30	P. M.	2 43	6 45	5 44	P. M.	2 19
18	Friday	6 57	5 31	1 31	3 42	6 44	5 45	2 05	3 67
19	Saturday	6 56	5 33	2 40	4 39	6 42	5 46	3 01	4 01
20	**Sunday**	6 54	5 34	3 56	5 29	6 41	5 47	4 30	5 02
21	Monday	6 53	5 36	5 09	6 00	6 40	5 48	5 34	5 47
22	Tuesday	6 51	5 37	6 24	6 29	6 39	5 49	6 36	6 30
23	Wednesday	6 49	5 38	7 41	7 10	6 38	5 50	7 37	7 09
24	Thursday	6 48	5 40	8 52	7 43	6 37	5 51	8 35	7 48
25	Friday	6 46	5 41	10 01	8 16	6 35	5 52	9 33	8 17
26	Saturday	6 44	5 43	11 10	8 50	6 34	5 53	10 49	9 03
27	**Sunday**	6 43	5 44	A. M.	9 26	6 33	5 53	11 47	9 45
28	Monday	6 41	5 45	12 09	10 05	6 32	5 54	A. M.	10 28

	Day	Hour	Min.	
New Moon	7	6	37	P. M. Central Time
First Quarter	15	12	53	P. M. Central Time
Full Moon	22	3	32	A. M. Central Time

		NORTHERN STATES				SOUTHERN STATES			
Day Month.	DAY OF WEEK	Sun Rises....	Sun Sets.....	Moon Rises	Moon Sets....	Sun Rises....	Sun Sets.....	Moon Rises	Moon Sets....
		A. M.	P. M.	A. M.	A. M.	A. M.	P. M.	A. M.	A. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Tuesday	6 39	5 48	1 06	10 49	6 30	5 55	12 41	11 16
2	Wednesday	6 37	5 48	1 55	11 35	6 29	5 56	1 32	P. M.
3	Thursday	6 36	5 49	2 45	P. M.	6 28	5 57	2 20	12 50
4	Friday	6 34	5 51	3 27	1 19	6 27	5 58	3 03	1 40
5	Saturday	6 32	5 52	4 04	2 15	6 26	5 59	3 44	2 34
6	**Sunday**	6 30	5 53	4 28	3 13	6 24	6 00	4 19	3 29
7	Monday	6 28	5 55	5 09	4 12	6 22	6 00	4 59	4 24
8	Tuesday	6 27	5 56	5 38	5 12	6 21	6 01	5 29	5 19
9	Wednesday	6 25	5 57	6 05	6 06	6 20	6 02	6 02	6 15
10	Thursday	6 23	5 59	6 34	7 16	6 19	6 03	6 35	7 13
11	Friday	6 21	6 00	7 02	8 20	6 17	6 04	7 09	8 11
12	Saturday	6 19	6 01	7 32	9 25	6 16	6 05	7 45	9 10
13	**Sunday**	6 18	6 03	8 06	10 30	6 14	6 05	8 21	10 10
14	Monday	6 16	6 04	8 45	11 44	6 13	6 06	9 06	11 11
15	Tuesday	6 14	6 05	9 29	A. M.	6 12	6 07	9 54	A. M.
16	Wednesday	6 12	6 06	10 22	12 35	6 10	6 08	10 48	12 11
17	Thursday	6 10	6 08	11 21	1 34	6 09	6 09	11 45	1 01
18	Friday	6 08	6 09	P. M.	2 35	6 08	6 10	P. M.	2 05
19	Saturday	6 06	6 10	1 36	3 12	6 06	6 10	1 54	2 53
20	**Sunday**	6 04	6 11	2 46	3 54	6 05	6 11	3 01	3 39
21	Monday	6 03	6 12	4 02	4 31	6 03	6 12	4 10	4 21
22	Tuesday	6 01	6 13	5 16	5 05	6 02	6 13	5 17	5 02
23	Wednesday	5 59	6 14	6 28	5 38	6 00	6 14	6 30	5 41
24	Thursday	5 57	6 16	7 38	6 11	5 59	6 14	7 28	6 18
25	Friday	5 55	6 16	8 44	6 42	5 58	6 15	8 29	6 58
26	Saturday	5 53	6 18	9 50	7 21	5 56	6 16	9 42	7 28
27	**Sunday**	5 51	6 18	10 52	7 57	5 55	6 17	10 31	8 21
28	Monday	5 50	6 20	11 48	8 42	5 54	6 18	11 27	9 01
29	Tuesday	5 48	6 20	A. M.	9 28	5 52	6 18	A. M.	9 54
30	Wednesday	5 46	6 22	12 38	10 28	5 51	6 19	12 15	10 43
31	Thursday	5 44	6 22	1 22	11 11	5 49	6 20	12 58	11 34

	Day	Hour	Min.	
Last Quarter	1	8	03	A. M. Central Time
New Moon	9	12	09	P. M. Central Time
First Quarter	16	9	49	P. M. Central Time
Full Moon	23	2	19	P. M. Central Time
Last Quarter	31	3	13	A. M. Central Time

Day Month.	DAY OF WEEK	NORTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets	SOUTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Friday	5 42	6 27	2 02	12 05	5 42	6 21	1 40	12 39
2	Saturday	5 40	6 28	2 37	1 03	5 40	6 22	2 28	1 19
3	**Sunday**	5 38	6 30	3 08	2 02	5 45	6 22	3 01	2 14
4	Monday	5 36	6 31	3 38	3 01	5 44	6 23	3 28	3 09
5	Tuesday	5 34	6 32	4 09	4 03	5 42	6 24	4 01	4 05
6	Wednesday	5 33	6 33	4 34	5 05	5 41	6 25	4 34	5 02
7	Thursday	5 31	6 34	5 03	6 08	5 40	6 25	5 08	6 01
8	Friday	5 30	6 36	5 33	7 14	5 38	6 26	5 43	7 02
9	Saturday	5 27	6 37	6 07	8 20	5 37	6 27	6 21	8 52
10	**Sunday**	5 25	6 38	6 44	9 26	5 36	6 28	7 04	9 04
11	Monday	5 24	6 40	7 31	10 29	5 34	6 29	7 48	10 05
12	Tuesday	5 22	6 41	8 20	11 29	5 33	6 29	8 43	11 04
13	Wednesday	5 20	6 42	9 15	A. M.	5 32	6 30	9 40	11 59
14	Thursday	5 18	6 43	10 19	12 25	5 30	6 31	10 49	A. M.
15	Friday	5 16	6 45	11 24	1 11	5 29	6 32	11 45	12 50
16	Saturday	5 15	6 46	P. M.	1 53	5 28	6 33	P. M.	1 36
17	**Sunday**	5 13	6 47	1 47	2 31	5 26	6 33	1 56	2 10
18	Monday	5 11	6 48	2 56	3 04	5 25	6 34	3 02	2 56
19	Tuesday	5 10	6 50	4 04	3 37	5 24	6 35	4 06	3 27
20	Wednesday	5 08	6 51	5 15	4 09	5 23	6 36	5 08	4 14
21	Thursday	5 06	6 52	6 10	4 42	5 21	6 37	6 03	4 52
22	Friday	5 04	6 53	7 14	5 16	5 20	6 38	7 15	5 33
23	Saturday	5 03	6 54	8 27	5 53	5 19	6 38	8 14	6 14
24	**Sunday**	5 01	6 56	9 22	6 34	5 18	6 39	9 01	6 46
25	Monday	5 00	6 57	10 07	7 19	5 17	6 40	10 03	7 44
26	Tuesday	4 58	6 58	11 08	8 08	5 15	6 41	6 11	8 33
27	Wednesday	4 56	7 00	11 46	9 06	5 14	6 42	11 35	9 23
28	Thursday	4 55	7 01	A. M.	9 55	5 13	6 42	A. M.	10 17
29	Friday	4 53	7 02	12 25	10 51	5 12	6 43	12 13	11 01
30	Saturday	4 52	7 02	12 59	11 49	5 11	6 44	12 50	P. M.

	Day	Hour	Min.	
New Moon	8	3	05	A. M. Central Time
First Quarter	15	4	12	A. M. Central Time
Full Moon	22	1	49	A. M. Central Time
Last Quarter	29	10	08	P. M. Central Time

Day Month.	DAY OF WEEK	NORTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets	SOUTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	**Sunday**	4 50	7 05	1 39	12 38	5 09	6 45	1 26	12 56
2	Monday	4 49	7 06	2 07	1 48	5 08	6 46	2 01	1 54
3	Tuesday	4 47	7 07	2 34	2 49	5 07	6 46	2 32	2 49
4	Wednesday	4 46	7 08	3 02	3 52	5 06	6 47	3 05	3 47
5	Thursday	4 44	7 10	3 32	4 58	5 05	6 48	3 39	4 46
6	Friday	4 43	7 11	4 04	5 57	5 04	6 49	4 17	5 48
7	Saturday	4 42	7 12	4 42	7 08	5 03	6 50	4 56	6 51
8	**Sunday**	4 40	7 13	5 22	8 16	5 02	6 50	5 36	7 54
9	Monday	4 39	7 14	6 17	9 21	5 01	6 51	6 36	8 46
10	Tuesday	4 38	7 16	7 07	10 19	5 00	6 52	7 32	9 54
11	Wednesday	4 36	7 17	8 07	11 19	4 59	6 53	8 34	10 49
12	Thursday	4 35	7 18	9 17	11 56	4 58	6 54	9 38	11 35
13	Friday	4 34	7 19	10 28	A. M.	4 58	6 54	10 44	A. M.
14	Saturday	4 33	7 20	11 30	12 33	4 57	6 55	11 48	12 19
15	**Sunday**	4 32	7 22	P. M.	1 07	4 56	6 56	P. M.	12 59
16	Monday	4 30	7 23	1 58	1 40	4 55	6 57	1 57	1 35
17	Tuesday	4 29	7 24	3 08	2 11	4 54	6 58	2 59	2 14
18	Wednesday	4 28	7 25	4 15	2 40	4 54	6 58	4 03	2 41
19	Thursday	4 27	7 26	5 18	3 24	4 53	6 59	5 04	3 29
20	Friday	4 26	7 27	6 14	3 51	4 53	7 00	6 04	3 59
21	Saturday	4 25	7 28	7 14	4 19	4 52	7 01	7 01	4 51
22	**Sunday**	4 24	7 29	8 20	5 13	4 51	7 01	7 50	5 36
23	Monday	4 23	7 30	9 01	5 59	4 51	7 02	8 45	6 25
24	Tuesday	4 23	7 31	9 54	6 50	4 50	7 03	9 31	7 25
25	Wednesday	4 22	7 32	10 34	7 44	4 50	7 04	10 13	8 05
26	Thursday	4 21	7 33	11 08	8 40	4 49	7 04	10 50	9 00
27	Friday	4 20	7 34	11 42	9 38	4 49	7 05	11 20	9 54
28	Saturday	4 19	7 35	A. M.	10 36	4 48	7 06	11 59	10 48
29	**Sunday**	4 19	7 36	12 07	11 33	4 48	7 06	A. M.	11 52
30	Monday	4 18	7 37	12 36	P. M.	4 48	7 07	12 31	P. M.
31	Tuesday	4 17	7 38	1 03	1 36	4 48	7 06	1 03	1 33

	Day	Hour	Min.	
New Moon	7	3	02	P. M. Central Time
First Quarter	14	9	25	A. M. Central Time
Full Moon	21	2	15	P. M. Central Time
Last Quarter	29	3	45	P. M. Central Time

Day Month	DAY OF WEEK	NORTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets	SOUTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Wednesday	4 17	7 39	1 31	2 39	4 47	7 08	1 37	2 31
2	Thursday	4 16	7 40	2 01	3 45	4 47	7 09	2 11	3 31
3	Friday	4 16	7 40	2 35	4 52	4 46	7 10	2 50	5 25
4	Saturday	4 15	7 41	3 14	5 59	4 46	7 10	3 34	5 25
5	**Sunday**	4 14	7 42	3 39	7 05	4 46	7 10	4 24	6 29
6	Monday	4 14	7 43	4 53	7 57	4 46	7 11	5 18	7 40
7	Tuesday	4 14	7 43	5 54	9 02	4 46	7 12	6 18	8 36
8	Wednesday	4 14	7 44	7 02	9 52	4 46	7 12	7 25	9 44
9	Thursday	4 13	7 45	8 09	10 33	4 46	7 13	8 32	10 18
10	Friday	4 13	7 45	9 11	11 10	4 45	7 13	9 40	11 00
11	Saturday	4 13	7 46	10 29	11 44	4 45	7 14	10 45	11 39
12	**Sunday**	4 13	7 46	11 49	A. M.	4 45	7 14	11 50	A. M.
13	Monday	4 12	7 47	P. M.	12 15	4 45	7 14	P. M.	12 16
14	Tuesday	4 12	7 48	2 07	12 46	4 45	7 12	1 56	12 53
15	Wednesday	4 12	7 48	3 02	1 18	4 45	7 15	2 47	1 29
16	Thursday	4 12	7 48	4 15	1 52	4 45	7 16	3 56	2 08
17	Friday	4 12	7 49	5 17	2 19	4 45	7 16	4 45	2 41
18	Saturday	4 12	7 49	6 13	3 09	4 45	7 16	5 48	3 34
19	**Sunday**	4 12	7 50	7 03	3 48	4 46	7 16	6 49	4 27
20	Monday	4 13	7 50	7 54	4 43	4 46	7 17	7 27	5 05
21	Tuesday	4 13	7 50	8 33	5 36	4 46	7 17	8 10	5 57
22	Wednesday	4 13	7 50	9 09	6 31	4 46	7 17	8 49	6 50
23	Thursday	4 13	7 50	9 41	7 30	4 46	7 17	9 26	7 44
24	Friday	4 14	7 50	10 15	8 26	4 47	7 18	10 00	8 40
25	Saturday	4 14	7 51	10 39	9 24	4 47	7 18	10 32	9 34
26	**Sunday**	4 14	7 51	11 10	10 18	4 47	7 18	11 04	10 28
27	Monday	4 15	7 51	11 37	11 23	4 48	7 18	11 35	11 22
28	Tuesday	4 15	7 50	A. M.	P. M.	4 48	7 18	A. M.	P. M.
29	Wednesday	4 16	7 50	12 01	1 26	4 48	7 18	12 09	1 15
30	Thursday	4 16	7 50	12 31	2 31	4 49	7 18	12 45	2 16

	Day	Hour	Min.	
New Moon	6	12	15	A. M. Central Time
First Quarter	12	2	59	P. M. Central Time
Full Moon	20	3	41	A. M. Central Time
Last Quarter	28	7	17	A. M. Central Time

		NORTHERN STATES				SOUTHERN STATES			
Day Month.	DAY OF WEEK	Sun Rises....	Sun Sets.....	Moon Rises	Moon Sets....	Sun Rises....	Sun Sets.....	Moon Rises	Moon Sets....
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Friday	4 16	7 50	1 07	3 28	4 49	7 18	1 35	3 18
2	Saturday	4 17	7 50	1 49	4 44	4 50	7 18	2 10	4 20
3	**Sunday**	4 18	7 50	2 40	5 48	4 50	7 18	3 02	5 13
4	Monday	4 18	7 50	2 35	6 40	4 50	7 18	4 00	6 23
5	Tuesday	4 19	7 49	4 41	7 41	4 51	7 18	5 05	7 17
6	Wednesday	4 20	7 49	5 51	8 28	4 51	7 17	6 07	8 10
7	Thursday	4 20	7 49	7 05	9 06	4 52	7 17	7 22	8 53
8	Friday	4 21	7 48	8 21	9 47	4 52	7 17	8 32	9 38
9	Saturday	4 22	7 48	9 35	10 18	4 53	7 16	9 40	10 17
10	**Sunday**	4 22	7 47	10 47	10 50	4 54	7 16	10 46	10 54
11	Monday	4 23	7 47	11 46	11 21	4 54	7 16	11 45	11 32
12	Tuesday	4 24	7 46	P. M.	11 55	4 55	7 16	P. M.	A. M.
13	Wednesday	4 25	7 46	2 09	A. M.	4 55	7 15	1 51	12 10
14	Thursday	4 26	7 45	3 10	12 31	4 56	7 15	2 50	12 50
15	Friday	4 27	7 44	4 08	1 09	4 57	7 15	3 43	1 35
16	Saturday	4 28	7 44	5 01	1 53	4 57	7 14	4 35	2 18
17	**Sunday**	4 28	7 43	5 49	2 39	4 58	7 14	5 24	3 05
18	Monday	4 29	7 42	6 32	3 31	4 59	7 13	6 09	3 55
19	Tuesday	4 30	7 41	7 10	4 25	4 59	7 12	6 50	4 47
20	Wednesday	4 31	7 40	7 44	5 21	5 00	7 12	7 27	5 40
21	Thursday	4 32	7 39	8 14	6 19	5 01	7 11	8 01	6 35
22	Friday	4 33	7 38	8 45	7 17	5 01	7 11	8 34	7 27
23	Saturday	4 34	7 38	9 10	8 16	5 02	7 10	9 06	8 22
24	**Sunday**	4 36	7 36	9 37	9 15	5 03	7 10	9 38	9 16
25	Monday	4 37	7 36	10 09	10 13	5 04	7 09	10 11	10 10
26	Tuesday	4 38	7 34	10 33	11 14	5 04	7 08	10 46	11 06
27	Wednesday	4 39	7 33	11 06	P. M.	5 05	7 07	11 21	11 55
28	Thursday	4 40	7 32	11 42	1 21	5 06	7 07	A. M.	P. M.
29	Friday	4 41	7 31	A. M.	2 25	5 06	7 06	12 02	2 03
30	Saturday	4 42	7 30	12 26	3 29	5 07	7 05	12 50	3 07
31	**Sunday**	4 43	7 29	1 29	4 30	5 08	7 04	1 40	4 05

	Day	Hour	Min.	
New Moon	5	7	36	A. M. Central Time
First Quarter	11	10	16	P. M. Central Time
Full Moon	19	6	08	P. M. Central Time
Last Quarter	27	8	20	P. M. Central Time

		NORTHERN STATES				SOUTHERN STATES			
Day Month.	DAY OF WEEK	Sun Rises....	Sun Sets.....	Moon Rises.	Moon Sets....	Sun Rises....	Sun Sets.....	Moon Rises	Moon Sets....
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Monday	4 44	7 27	2 18	5 26	5 09	7 03	2 43	5 03
2	Tuesday	4 46	7 26	3 26	6 16	5 09	7 02	3 49	5 56
3	Wednesday	4 47	7 25	4 40	6 59	5 10	7 02	4 57	6 50
4	Thursday	4 48	7 24	5 56	7 40	5 11	7 01	6 10	7 30
5	Friday	4 49	7 22	7 13	8 15	5 12	7 00	7 20	8 10
6	Saturday	4 50	7 21	8 26	8 50	5 12	6 59	8 29	8 52
7	**Sunday**	4 51	7 19	9 41	9 33	5 13	6 58	9 35	9 31
8	Monday	4 52	7 18	10 52	9 56	5 14	6 57	10 40	10 09
9	Tuesday	4 54	7 16	11 58	10 32	5 14	6 56	11 42	10 49
10	Wednesday	4 55	7 15	P. M.	11 10	5 16	6 54	P. M.	11 32
11	Thursday	4 56	7 14	2 02	11 53	5 16	6 54	1 41	A. M.
12	Friday	4 57	7 12	2 56	A. M.	5 17	6 52	2 44	12 16
13	Saturday	4 58	7 10	3 47	12 38	5 18	6 51	3 12	1 03
14	**Sunday**	5 00	7 09	4 31	1 27	5 18	6 50	4 07	1 52
15	Monday	5 01	7 07	5 10	2 20	5 19	6 49	4 49	2 43
16	Tuesday	5 02	7 06	5 50	3 15	5 20	6 48	5 27	3 36
17	Wednesday	5 03	7 04	6 18	4 22	5 21	6 47	6 04	4 27
18	Thursday	5 04	7 03	6 52	5 17	5 22	6 46	6 37	5 21
19	Friday	5 06	7 01	7 15	6 13	5 22	6 44	7 09	6 17
20	Saturday	5 07	6 59	7 42	7 04	5 23	6 43	7 41	7 10
21	**Sunday**	5 08	6 58	8 09	8 06	5 24	6 42	8 13	8 07
22	Monday	5 09	6 56	8 38	9 01	5 24	6 41	8 42	8 58
23	Tuesday	5 10	6 54	9 08	10 03	5 25	5 39	9 21	9 59
24	Wednesday	5 11	6 52	9 43	11 02	5 26	6 38	10 01	10 55
25	Thursday	5 13	6 51	10 24	11 58	5 27	6 37	10 46	11 53
26	Friday	5 14	6 49	11 09	P. M.	5 28	6 36	11 34	P. M.
27	Saturday	5 15	6 47	11 59	2 16	5 28	6 34	A. M.	1 51
28	**Sunday**	5 16	6 46	A. M.	3 12	5 29	6 33	12 29	2 48
29	Monday	5 17	6 44	1 06	4 06	5 30	6 32	1 29	3 42
30	Tuesday	5 18	6 42	2 10	4 50	5 30	6 30	2 35	4 38
31	Wednesday	5 20	6 40	3 29	5 32	5 31	6 29	3 45	5 19

	Day	Hour	Min.	
New Moon	3	2	18	P. M. Central Time
First Quarter	10	8	14	A. M. Central Time
Full Moon	18	9	28	A. M. Central Time
Last Quarter	26	6	51	A. M. Central Time

		NORTHERN STATES				SOUTHERN STATES			
Day Month	DAY OF WEEK	Sun Rises	Sun Sets	Moon Rises	Moon Sets	Sun Rises	Sun Sets	Moon Rises	Moon Sets
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Thursday	5 21	6 38	4 44	6 09	5 32	6 28	4 55	5 59
2	Friday	5 22	6 36	6 01	6 44	5 33	6 26	6 05	6 46
3	Saturday	5 23	6 35	7 16	7 19	5 33	6 25	7 14	7 24
4	**Sunday**	5 24	6 33	8 30	7 54	5 34	6 24	8 21	8 04
5	Monday	5 26	6 31	9 40	8 29	5 35	6 22	9 27	8 45
6	Tuesday	5 27	6 29	10 48	9 08	5 36	6 21	10 29	9 28
7	Wednesday	5 28	6 27	11 51	9 49	5 36	6 19	11 29	10 13
8	Thursday	5 29	6 25	P. M.	10 35	5 37	6 18	P. M.	10 59
9	Friday	5 30	6 24	1 41	11 23	5 38	6 16	1 14	11 48
10	Saturday	5 32	6 22	2 28	A. M.	5 39	6 15	2 04	A. M.
11	**Sunday**	5 33	6 20	3 10	12 15	5 39	6 14	2 47	12 39
12	Monday	5 34	6 18	3 46	1 10	5 40	6 12	3 25	1 31
13	Tuesday	5 35	6 16	4 19	2 04	5 41	6 11	4 04	2 24
14	Wednesday	5 36	6 14	4 49	3 01	5 42	6 09	4 38	3 20
15	Thursday	5 38	6 12	5 18	3 59	5 42	6 08	5 11	4 11
16	Friday	5 39	6 10	5 45	4 58	5 43	6 06	5 43	5 08
17	Saturday	5 40	6 08	6 13	6 00	5 44	6 05	6 15	6 10
18	**Sunday**	5 41	6 06	6 41	7 01	5 44	6 04	6 47	6 56
19	Monday	5 42	6 05	7 11	8 03	5 45	6 02	7 24	7 52
20	Tuesday	5 44	6 03	7 45	9 04	5 46	6 01	8 02	8 50
21	Wednesday	5 45	6 01	8 21	10 06	5 47	5 59	8 43	9 48
22	Thursday	5 46	5 59	9 07	11 08	5 47	5 58	9 20	10 46
23	Friday	5 47	5 57	9 55	P. M.	5 48	5 56	10 22	11 45
24	Saturday	5 48	5 55	10 55	1 02	5 49	5 55	11 15	P. M.
25	**Sunday**	5 50	5 53	11 59	1 56	5 50	5 53	A. M.	1 23
26	Monday	5 51	5 51	A. M.	2 43	5 50	5 52	12 20	2 23
27	Tuesday	5 52	5 49	1 05	3 25	5 51	5 50	1 25	3 09
28	Wednesday	5 53	5 47	2 20	4 05	5 52	5 49	2 33	3 54
29	Thursday	5 55	5 46	3 35	4 38	5 53	5 48	3 42	4 35
30	Friday	5 56	5 44	4 51	5 13	5 53	5 46	4 41	5 15

	Day	Hour	Min.	
New Moon	1	9	33	P. M. Central Time
First Quarter	8	9	30	P. M. Central Time
Full Moon	17	1	20	A. M. Central Time
Last Quarter	24	3	18	P. M. Central Time

Day Month	DAY OF WEEK	NORTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets	SOUTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Saturday	5 57	5 42	6 04	5 58	5 54	5 45	5 44	5 55
2	**Sunday**	5 58	5 40	7 17	6 23	5 55	5 44	7 05	6 36
3	Monday	6 00	5 38	8 27	7 01	5 56	5 42	8 11	7 19
4	Tuesday	6 01	5 36	9 36	7 45	5 56	5 41	9 13	7 59
5	Wednesday	6 02	5 34	10 36	8 27	5 57	5 39	10 12	8 51
6	Thursday	6 03	5 32	11 32	9 16	5 58	5 38	11 07	9 46
7	Friday	6 05	5 31	P. M.	10 08	5 59	5 36	11 58	10 31
8	Saturday	6 06	5 29	1 06	10 48	6 00	5 35	P. M.	11 23
9	**Sunday**	6 07	5 27	1 45	11 47	6 00	5 34	1 25	A. M.
10	Monday	6 08	5 25	2 19	A. M.	6 01	5 33	2 02	12 16
11	Tuesday	6 10	5 23	2 50	12 55	6 02	5 31	2 38	1 09
12	Wednesday	6 11	5 22	3 19	1 53	6 03	5 30	3 11	2 03
13	Thursday	6 12	5 20	3 47	2 51	6 04	5 29	3 43	2 57
14	Friday	6 14	5 18	4 15	3 50	6 04	5 27	4 15	3 52
15	Saturday	6 15	5 16	4 43	4 50	6 05	5 26	4 49	4 47
16	**Sunday**	6 16	5 15	5 13	5 52	6 06	5 25	5 23	5 44
17	Monday	6 18	5 13	5 46	6 55	6 07	5 23	6 01	6 42
18	Tuesday	6 19	5 11	6 23	7 59	6 08	5 22	6 41	7 41
19	Wednesday	6 20	5 09	7 06	9 01	6 09	5 21	7 28	8 40
20	Thursday	6 21	5 08	7 54	10 03	6 10	5 20	8 16	9 39
21	Friday	6 23	5 06	8 49	11 01	6 10	5 19	9 14	10 36
22	Saturday	6 24	5 04	9 50	11 51	6 11	5 17	10 11	11 41
23	**Sunday**	6 26	5 03	10 55	P. M.	6 12	5 16	11 16	P. M.
24	Monday	6 27	5 01	A. M.	1 23	6 13	5 15	A. M.	1 06
25	Tuesday	6 28	5 00	12 06	2 01	6 14	5 14	12 21	1 49
26	Wednesday	6 29	4 58	1 18	2 37	6 15	5 13	1 27	2 30
27	Thursday	6 31	4 57	2 30	3 10	6 16	5 12	2 33	3 10
28	Friday	6 32	4 55	3 42	3 44	6 17	5 11	3 40	3 49
29	Saturday	6 34	4 54	4 54	4 17	6 18	5 10	4 46	4 28
30	**Sunday**	6 35	4 52	6 04	4 54	6 19	5 08	5 51	4 59
31	Monday	6 36	4 51	7 13	5 34	6 20	5 08	6 50	5 53

	Day	Hour	Min.	
New Moon	1	6	26	A. M. Central Time
First Quarter	8	2	12	P. M. Central Time
Full Moon	16	5	00	P. M. Central Time
Last Quarter	23	10	32	P. M. Central Time
New Moon	30	5	39	P. M. Central Time

		NORTHERN STATES				SOUTHERN STATES			
Day Month.	DAY OF WEEK	Sun Rises....	Sun Sets.....	Moon Rises	Moon Sets....	Sun Rises....	Sun Sets.....	Moon Rises	Moon Sets....
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Tuesday	6 38	4 49	8 05	6 17	6 20	5 06	5 47	6 40
2	Wednesday	6 39	4 48	9 19	7 05	6 21	5 06	8 54	7 29
3	Thursday	6 40	4 46	10 12	7 53	6 22	5 04	9 47	8 20
4	Friday	6 42	4 45	11 02	8 50	6 23	5 04	10 36	9 13
5	Saturday	6 43	4 44	11 44	9 46	6 24	5 03	11 20	10 04
6	**Sunday**	6 44	4 42	P. M.	10 45	6 25	5 02	11 59	11 01
7	Monday	6 46	4 41	12 51	11 41	6 26	5 01	P. M.	11 54
8	Tuesday	6 47	4 40	1 20	A. M.	6 27	5 00	1 10	A. M.
9	Wednesday	6 49	4 39	1 54	12 41	6 28	4 59	1 43	12 50
10	Thursday	6 50	4 37	2 15	1 38	6 29	4 58	2 14	1 42
11	Friday	6 51	4 36	2 43	2 37	6 30	4 58	2 47	2 42
12	Saturday	6 53	4 35	3 13	3 39	6 31	4 57	3 21	3 44
13	**Sunday**	6 54	4 34	3 44	4 41	6 32	4 56	3 58	4 30
14	Monday	6 56	4 33	4 29	5 44	6 33	4 56	4 38	5 29
15	Tuesday	6 57	4 32	5 28	6 50	6 34	4 55	5 22	6 29
16	Wednesday	6 58	4 31	6 34	7 53	6 35	4 54	6 11	7 30
17	Thursday	7 00	4 30	7 45	8 54	6 36	4 54	7 07	10 29
18	Friday	7 01	4 29	8 57	9 50	6 37	4 53	8 00	11 25
19	Saturday	7 02	4 28	10 09	10 40	6 38	4 53	9 09	10 18
20	**Sunday**	7 04	4 29	11 21	11 24	6 39	4 52	10 14	11 06
21	Monday	7 05	4 26	A. M.	P. M.	6 40	4 52	11 08	11 50
22	Tuesday	7 06	4 26	12 31	12 39	6 41	4 51	A. M.	P. M.
23	Wednesday	7 08	4 25	1 39	1 12	6 42	4 51	12 20	1 10
24	Thursday	7 09	4 25	2 45	1 44	6 43	4 50	1 29	1 45
25	Friday	7 10	4 23	3 52	2 17	6 44	4 50	2 34	2 26
26	Saturday	7 11	4 23	4 54	2 51	6 45	4 50	3 38	3 04
27	**Sunday**	7 13	4 22	5 52	3 28	6 46	4 49	4 40	3 47
28	Monday	7 14	4 20	6 45	4 09	6 47	4 49	5 42	4 31
29	Tuesday	7 15	4 21	7 03	4 56	6 48	4 49	6 41	5 18
30	Wednesday	7 16	4 21	7 59	5 44	6 48	4 49	7 37	6 09

	Day	Hour	Min.	
Last Quarter	7	9	54	A. M. Central Time
Full Moon	15	7	39	A. M. Central Time
Last Quarter	22	5	41	A. M. Central Time
New Moon	29	7	26	A. M. Central Time

Day Month.	DAY OF WEEK	NORTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets	SOUTHERN STATES Sun Rises	Sun Sets	Moon Rises	Moon Sets
		A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Thursday	7 17	4 20	8 55	6 37	6 49	4 48	8 52	6 59
2	Friday	7 19	4 20	9 37	7 33	6 50	4 48	9 37	7 55
3	Saturday	7 20	4 20	10 16	8 31	6 51	4 48	10 16	8 44
4	**Sunday**	7 21	4 19	10 51	9 29	6 52	4 48	10 51	9 44
5	Monday	7 22	4 19	11 21	10 37	6 53	4 48	11 21	10 36
6	Tuesday	7 23	4 19	11 50	11 25	6 54	4 48	11 50	11 42
7	Wednesday	7 24	4 19	P. M.	A. M.	6 54	4 48	P. M.	A. M.
8	Thursday	7 25	4 18	12 44	12 13	6 55	4 48	12 44	12 23
9	Friday	7 26	4 18	1 12	1 27	6 56	4 48	1 12	1 18
10	Saturday	7 27	4 18	1 42	2 24	6 57	4 49	1 51	2 15
11	**Sunday**	7 28	4 18	2 15	3 19	6 58	4 49	2 30	3 13
12	Monday	7 29	4 18	2 53	4 31	6 58	4 49	3 31	4 12
13	Tuesday	7 30	4 19	3 32	5 36	6 59	4 49	4 00	5 13
14	Wednesday	7 30	4 19	4 29	6 39	7 00	4 50	4 54	6 14
15	Thursday	7 31	4 19	5 28	7 89	7 00	4 50	5 53	7 14
16	Friday	7 32	4 19	6 34	8 33	7 01	4 50	6 56	8 10
17	Saturday	7 33	4 20	7 45	9 22	7 02	4 50	8 03	9 04
18	**Sunday**	7 33	4 20	8 57	10 03	7 02	4 51	9 03	9 49
19	Monday	7 34	4 20	10 09	10 42	7 03	4 51	10 18	10 31
20	Tuesday	7 34	4 20	11 21	11 16	7 03	4 52	11 22	11 12
21	Wednesday	7 35	4 21	A. M.	11 49	7 04	4 52	A. M.	11 48
22	Thursday	7 36	4 22	1 31	P. M.	7 04	4 53	12 27	P. M.
23	Friday	7 36	4 22	1 39	12 34	7 05	4 53	1 30	1 06
24	Saturday	7 37	4 25	2 46	1 29	7 05	4 54	2 32	1 45
25	**Sunday**	7 37	4 25	3 52	2 06	7 06	4 54	3 33	2 18
26	Monday	7 37	4 24	4 54	2 49	7 06	4 53	4 32	3 13
27	Tuesday	7 38	4 24	5 52	3 38	7 07	4 55	5 28	3 59
28	Wednesday	7 38	4 26	6 45	4 28	7 07	4 56	6 19	4 52
29	Thursday	7 38	4 26	7 33	5 22	7 07	4 57	7 08	5 46
30	Friday	7 38	4 27	8 14	6 19	7 07	4 57	7 52	6 40
31	Saturday	7 38	4 28	8 22	7 17	7 08	4 58	8 32	7 35

	Day	Hour	Min.	
First Quarter	7	7	20	A. M. Central Time
Full Moon	14	8	51	P. M. Central Time
Last Quarter	21	1	54	P. M. Central Time
New Moon	28	11	39	P. M. Central Time

INTRODUCTION TO WEATHER FORECASTS.

Not forgetting that many new readers receive this Almanac each year, we realize that these new readers need information and suggestions that older readers are familiar with. Hence, we give here a few plain directions for reading and understanding the forecasts.

The storm diagrams in the center of the forecast pages for each month are the keys to the forecasts, hence everything about them **means something** that is important. The "Regular Storm Periods" are always indicated by the short white brace, marked Vulcan, (VUL) and include five or six days. The days of month and week are given in letters and figuers under the engraved diagram, the "regular" storm days being in **heavy faced letters** and figures, the "reactionary" periods being marked with asterisks or stars beside the letters. The dates of the moon changes are indicated by proper letters under the days of week and month on which the changes occur.

The dates when the moon in on the celestial equator, or at north or south declination, are marked by the letters "E," "N" and "S" while the dates on which it passes its apogee and perigee are marked by a small A or P beside the date figures. These phases and relative positions of the moon exert an influence upon weather conditions, and should be studied and understood. It must not be supposed that weather forecasts that are worth anything, can be so presented that no mental effort on the part of the reader is necessary. Each must positively do some studying and thinking himself. Topography of country, nearness to water or mountain chains, etc., have influence upon "weather habits" for each section of country and the forecaster cannot know all these.

The Mercury, Venus, Earth and Mars periods of influence are all clearly marked in white braces on the charts. In each case the brace shows the center of the period, (where the brace turns down to a date) and the time of the beginning and end of the influence, by extending each way the right approximate distance. In order to understand the forecasts the reader should give sufficient time to a careful study of these storm charts to know the meaning of all these markings, as the printed forecasts are written with reference to them.

The time when the storms of a period will probably strike your locality depends upon "where you are at," as to east, west or central parts of the country, as, in the United States, for which these forecasts are more especially intended, storm areas almost invariably move from southwestward to northeastward across the country. That is, they follow approximately a line at right angles to the north and south magnetic poles of the earth. Marked increase of temperatures with falling barometer and electrical storms may as a rule be expected when new or full Moon in perigee and on the equator, falls within a storm period.

When the storm periods are also covered by a Mercury brace, you can count on disturbances of greater force and longer continuance. Cloudiness, long continued, with drizzling rain, sleet, mist, snow and blizzards will appear mostly

within dates covered by the Mercury brace. Watch and see if this is not so. When a Venus brace appears in connection with a Mercury brace at storm periods, storms will be more universal and are likely to begin or extend before or after the regular time. Storms will be characterized by greater violence, gales on the lakes and gulf, West India hurricanes and tornadoes will get in their work mostly within such combinations. Excessive downpours of rain, with lightning and hail, are also quite characteristic of the Venus-Mercury periods. Mars in connection with others, is an exciter, and will help to intensify storm developments. When we near an equinoctial earth period, disturbances will be less or more intense, according to the pressure of other planetary influences as shown by the braces.

The hurricane which wrecked several Gulf coast towns September 12th to 15th, 1919, began midway between the center of the Autumnal equinox and the center of a Venus period. Warning was given for this period that if the equinoctial disturbance centered at this time as it often does, "the hardest storms of all the middle days of the month would fall within this period." In the forecasts for these middle days, we stated that "navigators on the Gulf should be on the lookout for storms sweeping up from the Caribbean Sea, people who live near the Gulf should watch for their share of such storms about this time." On the 12th to 15th, a hurricane did sweep up from the Caribbean wrecking several towns, Galveston being saved only by its sea wall. When Galveston was so hard struck in 1900 by hurricane, the exact day was pointed out in advance in the Hicks forecasts.

In the 1920 almanac earthquakes were predicted for "within sixty hours of midnight between the 4th and 5th." Within 12 hours of the hour named whole provinces of Mexico were severely shaken, killing many people and destroying thousands of homes. Quakes were also predicted for near the 12th and 13th, at which time Mexico was again seriously damaged by quakes. Another prediction was for quakes "central about the 21st" the period running from the 18th to the 24th. On the 23rd the Pacific coast was shaken. So far as we can learn, these were the only quakes reported for January. **Some** "coincidence" was it not, that we should predict correctly **all** the quakes for the month, not missing them by even a few hours? Eh?

Seeing that the subject is so vital in the understanding of our weather forecasts, to say nothing of the comfort and safety of our readers and their families, we are justified in calling attention to our scientific instrument business. After many years of careful search and testing, Rev. Hicks designed a barometer that he could honestly recommend and arranged for its manufacture. We are still selling this instrument, together with a fine Thermometer, also our own design, which has, like the barometer, the name of our publication on the face. We know that as good a grade of instruments cannot be had elsewhere at the prices we ask for them. We also offer high grade hygrometers, for registering amount of humidity in the atmosphere, any one of which is excellent value for the money. White us for our catalogue of scientific instruments.

JOHN B. NOYES, Author.

Weather Forecasts for the Year 1921.

WEATHER FORECASTS FOR JANUARY, 1921.

We should, in this first paragraph, correct an error in proof reading in the 1920 almanac. In the last sentence of the forecasts, read: "The year 1920 will go out," etc., instead of 1919. Thus we have for the first statement for 1921 that weather is likely to be clearing and cold northward, cool and fair in southern sections.

The first storm areas of the new year will begin to show in atmospheric change in the extreme west very soon after the last echoes of the New Year bells die away.

The first storm period, reactionary, runs through the 2nd, 3rd and 4th.

ASTRONOMICAL CONFIGURATIONS. Mercury is at his aphelion the 2nd; Jupiter is stationary the 4th; Saturn is stationary the 5th; Moon is a little more than midway between the equator and her south declination; the winter

Blizzard of January 18th, 1920.—Taken by J. B. Bordwell, Albion, N. Y.

solstice has about passed out of weather matters for this year, until next Autumn.

As Moon is approaching new, also moving southward, pulling a wave of colder atmosphere after her, temperatures will rise slowly in the west by the 2nd, the warmer waves passing eastward with the low areas, touching central longitudes about the 3rd and eastern sections the 4th or 5th. The cold wave which will naturally follow the low areas eastward will meet with resistance soon after passing central sections, hence the cold wave will be less marked in eastern parts as the storms pass out into the Atlantic. Moon will then have turned north from her south declination, hence as the next storm period approaches, temperatures will rise more rapidly than at the previous period. The Jupiter influence which began February 5th, 1919, will continue, but with ever decreasing intensity all this year, and through part of next year. Saturn's influence will grow rapidly from now on in weather conditions, being felt more in general than in local weather.

WEATHER FORECASTS FOR JANUARY, 1921.

The Second Storm Period, regular, runs from the 7th to the 10th, the 8th being the central day.

ASTRONOMICAL CONFIGURATIONS. A Vulcan center is on the 8th; Moon at south declination the 6th; Moon in apogee the 9th; Moon and Mercury in conjunction the 8th; Mars and Uranus in conjunction with Venus the 13th; Mercury and Sun at superior conjunction the 16th.

Thermal and barometric changes will appear in the west by the 13th or 14th. The usual accompaniments of low areas will pass eastward, the storm's tracks (rain and snow) appear behind the actual storm areas. Remember that the **real storm** of the meteorologist is the atmospheric disturbance attendant upon the thermal and barometric changes, sometimes not attended by heavy cloudiness even, but with storm "signs" always in evidence. The real "storm," the time when the greatest changes of atmospheric polarization are going on, may pass your locality without your notice except in the "signs" which our fathers would have called storm signs. The precipitation may or may not develop in your door-yard, but the prediction of the passing "storm area" may be fulfilled to the day and hour. Those who forget their incredulity and criticism

A "Heap" of the Beautiful.—Photo by A. M. Shaw, Ray, Kansas.

and get down to using their "thinker' will get most value out of these weather forecasts.

The Third Storm Period, regular, runs though the 18th to the 21st, inclusive.

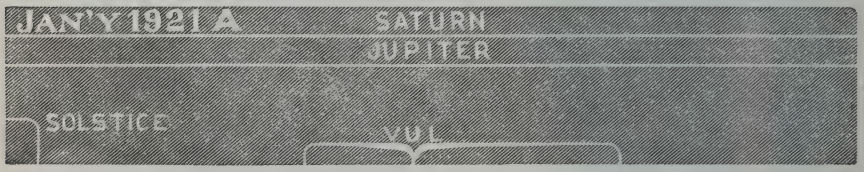
ASTRONOMICAL CONFIGURATIONS. Moon is just past First Quarter at the beginning of the period; a Vulcan center falls on the 19th; Moon is at north declination the 21st.

Major storm causes are almost nil at this time, although we are approaching an earthquake period that will most likely add to the storminess of this storm period. Storminess will not be likely to develop even in western parts before the 19th, except in the rising temperature and possibly falling barometer. As the areas pass into central sections, considerable storminess will appear, and when eastern parts are reached, precipitation will reach its maximum for the period. Snow to northward and rain to southward, with sleet quite likely

WEATHER FORECASTS FOR JANUARY, 1921.

well to eastward may be looked for. The intensity of storms will grow until Moon comes nearest the earth for the month on the 23rd, on which date Moon is also full. On the 21st Moon will swing round at her farthest point north and start southward, drawing a cold wave after her. To illustrate this, fill a tub with water, thrust a piece of board down inside the tub at one side and swing it across in the water to the other side. Note the current following the board. Do the same again, then without lifting the board from the water, suddenly swing it back and note how the current of the forward swing meets and clashes with the one now being made by the stick. That is what happens in the atmosphere when Moon runs to either north or south declination, then swings back the other way. The air currents clash, and the disturbed condition of the atmosphere adds to storminess for the time. The last day or so of this period marks a very acute earthquake combination, and will no doubt be heard from. This will probably prevent a very marked fall of temperature as the period ends. Normally and in a general way, from the beginning of this period to the end of the next should be the warmest part of the month. Abnormal storm causes would no doubt change this.

The Fourth Storm Period, reactionary, runs through the 24th, 25th and



1	*2	*3	*4	5	S6	7	8	A9	10	11	12	13	*14E	*15	*16
S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
							N								

26th, with possibilities for the 23rd and 27th also.

ASTRONOMICAL CONFIGURATIONS. Mercury is at his greatest heliocentric latitude south on the 22nd; Neptune and Moon are in conjunction the 24th; Jupiter and Moon are in conjunction the 26th; Moon is at perigee the 23rd and over the equator the 27th; Mercury begins to influence weather about the 23rd forward for a couple of weeks.

There is little question as to there being "something doing" while this period is passing. We do not believe that there will be much respite from cloudy if not stormy weather from the first days of the last period to the end of this. Rains southward and cold rains, wet snow and sleet northward are likely. If the barometer runs to low readings, a general thaw may visit large portions of country, and full streams and ice gorges are possible. This latter will depend upon the amount of snow and cold thus far in the winter. Anyway, your rubber boots will probably come in handy during the last half of January, especially during this period. Seismic phenomena are almost certain

WEATHER FORECASTS FOR JANUARY, 1921.

between the 20th and 27th. Such should appear, if at all, north of the equator and in longitude nearest the Moon or at the opposite side of the earth, according to the time of day the phenomena appear.

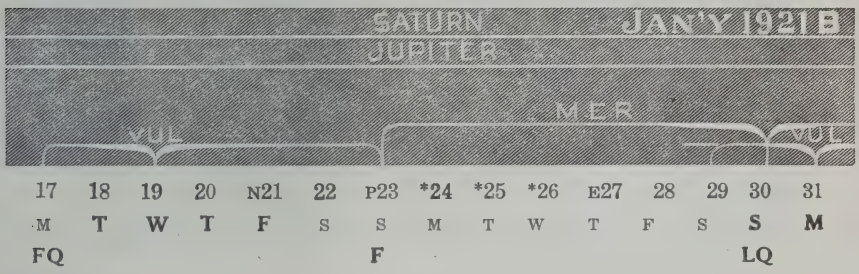
The Fifth Storm Period touches only the last two days of January and probably will not be heard from in storminess east of the Rockies.

The First Earthquake Period is central on the 8th or 9th and days touching these dates. Volcanoes will become restive and tremors quite intense in the earthquake belt.

The Second Earthquake Period is central from the 23rd to the 27th, with the first two days named as the critical ones. We name as the real crisis, within 48 hours of midnight of the 24th.. Watch and see.

Secondary Earthquake Crises are likely about the 15th and the 30th or days touching these. As with reactionary storm periods, causes are not usually as potent at the secondary periods and results less marked than at the regular.

In the January forecasts for 1920 the first earthquake period was set down for the 5th, the crisis falling within "sixty hours of midnight between the 4th and 5th." Within twelve hours of the time mentioned, earthquakes destroyed



17	18	19	20	N21	22	P23	*24	*25	*26	E27	28	29	30	31
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M
FQ						F							LQ	

many lives and immense property in two provinces of Mexico. Thousands were homeless as a result of these quakes. It was also stated that "possible tremors if not quakes were likely about the 12th or 13th or dates close to these." On the 13th the Pacific coast was shaken up according to newspaper reports. Still further quakes were predicted for "from the 18th to about the 24th." On the 23rd provinces of Mexico were shaken up with great damage to life and property. Other weather predictions for the month were verified with a degree of accuracy of about 90 percent. It seems almost impossible for people generally to get beyond the idea which supposes that these predictions of earthquakes, or of weather generally, are not "guesswork." It seems natural to suppose that if we base them upon any scientific facts, surely the weather bureau at Washington would also know of such basis and use it accordingly. But the fact that we do predict earthquakes for "within certain hours of certain dates" and that we are correct in nine cases of every ten, should be good evidence that we have sources of knowledge that the weather bureau has not, or will not gain and use.

WEATHER FORECASTS FOR FEBRUARY, 1921.

The First Storm Period for February begins the 30th of January and runs to the 2nd or 3rd of February.

ASTRONOMICAL CONFIGURATIONS. Moon is at first quarter the 30th of January; a Vulcan Center falls on the 31st of January; Saturn and Moon are in conjunction the 27th of January; Mercury is in ascending node the 28th of January; Neptune and Sun are at opposition the 1st of February; a Mercury influence runs all through this period.

Low areas will have organized in the west by the last two days of January, and should be near the Rockies about the 1st. The indications are at this distance of more than a year in advance, that there will be considerable cloudiness, more than is normal for the same period because of Mercury's presence as a weather factor. Large areas both north and south will get their share of characteristic Mercury weather, cold rains southward and cooler rains north-

Shovelled Out.—Photo by C. E. McEwen, Rochwell, Iowa.

ward, with wet snow and sleet in some sections. Moon at south declination will tend to hold temperatures down, and produce a cold wave at the end of the period, about the 2nd or 3rd. Moon is also at nearly her farthest point from the earth and has just passed first quarter, this latter itself calling for cooler weather. Cold, snappy weather, even blizzardous may sweep over most northern sections. This period ends within about four days of an earthquake center, which may tend to tone down otherwise cold weather as the storm areas pass to eastward.

The Second Storm Period, reactionary, runs through the 6th, 7th and 8th.

ASTRONOMICAL CONFIGURATIONS. Seismic tendencies mentioned for the last period will affect weather at this time; Moon is New on the central day of the period; on the 9th, Mercury and Uranus are in conjunction with the Moon and Venus is at her greatest enlongation east; the Vernal equinoctial disturbance is only a few weeks ahead.

WEATHER FORECASTS FOR FEBRUARY, 1921.

The cold weather following the last period will begin to break down in the west by the 5th or 6th and thence progressively eastward. This period does not promise as much storminess as the one just past, but some precipitation will appear, in sections rather than generally over the country. Normally storm areas should pass out into the Atlantic by the 8th or 9th, but the 8th is the crisis day of an earthquake period, which may lengthen out this storm period, possibly even to running this and the next period together and causing storminess until the 10th, the day for the next period to begin in the west. In this case old Boreas will get in his windy, cold work over small sections only of the country until the end of the next period.

The Next Storm Period, regular, begins the 10th and runs through the 10th to the 14th, inclusive.

ASTRONOMICAL CONFIGURATIONS. Mercury is at ascending node the

In Old Boreas' Wake.—Photo by Squire Z. Phinney, Pawtucket, R. I.

10th and greatest enlongation east the 15th; Moon is in conjunction with Uranus and Venus on the 11th; Moon is over the equator the 10th; a Vulcan center falls on the 11th; the influence of the Vernal Equinox will begin to be felt about this time.

The duration or intensity of the Vernal Equinox storminess is not always constant from year to year, to be pointed out as to beginning or ending to the day. The average runs about three weeks to one month before and the same after the real equinox itself. This occurs the 21st and 22nd of March, generally. but if near midnight a difference of an hour may bring it a day earlier or later, counting by civil time. The equinoctial or "line storm" is too long acknowledged and recognized to need discussion here. Some socalled sscientists claim that there is no such season as marked out by weather characteristics and intensities. Whichever claim is right, something akin to it will begin to leave

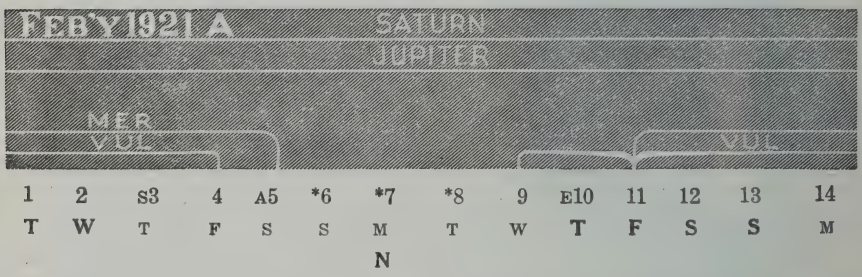
WEATHER FORECASTS FOR FEBRUARY, 1921.

tracks in our weather from this time on for a few weeks. It sometimes happens that the full force of this freaky weather spell is expended two or three weeks before the equinox. If this occurs this year, this present period will be marked by equinoctial characteristics. A moderately cold wave will swing in behind storm areas as they pass to eastward.

The Fourth Storm Period is reactionary and runs through the 16th, 17th and 18th.

ASTRONOMICAL CONFIGURATIONS. Moon's First Quarter falls on the 15th; north declination the 17th; Mercury is at perihelion the 15th; the beginning of a Venus disturbance is only a week away.

Temperatures will rise and barometer fall early in the west, probably by the 15th. Storm areas will start promptly eastward. Only a few planetary configurations mark this period, and it is possible that storminess may fall to a minimum. Let it be remembered that changes from one configuration to another are not sudden. The changes are gradual, the dates named for them mark only the center of the configuration. For instance, Moon is at first quarter on the 15th, but each day for about a week it has been changing gradually since new moon the 7th. Moon has been moving gradually northward since



1	2	S3	4	A5	*6	*7	*8	9	E10	11	12	13	14
T	W	T	F	S	S	M	T	W	T	F	S	S	M
						N							

her south declination the 3rd. Whatever influences may accrue from her north declination have been coming gradually into weather matters for nearly two weeks. The crisis of this movement falls about the time she turns southward again—i. e. the 17th. As earlier explained, a current of northern atmosphere starts to follow her, clashing with the current of warm air which was following her in her northward course, thus adding to stormy conditions as the run southward continues. Mercury at perihelion means that this planet is nearest the sun and, somewhat like the moon at her declinations, turns backward round the end of his elliptical orbit, kicking up an atmospheric "rumpus" in the system. Don't say that there is no atmosphere out where Mercury swings in space. We do not believe that earth has a monopoly on atmosphere, by any means. Atmosphere, as we know it, is a condition of the electro-magnetic ether near the earth's surface. Mercury is no doubt surrounded by similar conditions, but **mercurized** so to speak, that is, peculiar to Mercury's surface, and so on with each of the planets, but all merely differing conditions suited to their several localities in space—all atmosphere, just the same.

WEATHER FORECASTS FOR FEBRUARY, 1921.

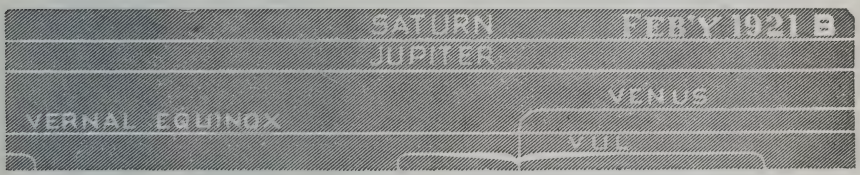
The Fifth Storm Period, regular, runs from the 22nd to the 26th, inclusive.

ASTRONOMICAL CONFIGURATIONS. There are plenty of these; Moon is at perigee (nearest the earth) and in conjunction with Neptune the 20th; Mercury is stationary and Moon is full on the 22nd; a Vulcan center falls on the 23rd; Moon is in conjunction with both Jupiter and Saturn on the same date, the 23rd; Uranus and Moon are in conjunction the 24th; Moon crosses the equator the 23rd; a Venus disturbance begins about the 23rd.

Look for rapid storm developments west of the Mississippi valley when storm areas start eastward about the 21st or 22nd. Probably before the storms reach central sections, seismic phenomena will be heard from. Storms of rain with lightning southward and possibly in central sections and wet snow northward are probabilities. In sections where much snow has fallen, this period may end with swollen streams and ice gorges provided barometric readings run low, especially if Venus gets in her work early in the period. February will likely go out with cold northwest winds and raw, chilly weather.

The First Earthquake Period for February runs through four days for its crisis, the 7th, 8th, 9th and 10th. The 7th and 9th are central days.

The Second Earthquake Period runs from the 19th through the 23rd, with



15	*16	*N17	*18	19	P20	21	22	E23	24	25	26	27	28
T	W	T	F	S	S	M	T	W	T	F	S	S	M
FQ							F						

the crisis within 48 hours of midnight between the 22nd and 23rd.

Secondary tremor causes are in evidence about the 15th and 28th. It should be understood that earthquakes may not always appear on the dates when causes are indicated in the forecasts, but nine times in ten they will appear then if at any time within a week or two. Earthquake causes are always in evidence, but not intense enough to be heard from in seismic phenomena. Of course the electro-magnetic impingements from the sun, the ever-changing angles of earth, moon and other planets, the changing potentials within the earth itself are always at work, but with greatly differing intensities. The dates we name as crisis are the times when there is greatest likelihood of tremors or quakes. Once in a while some unforeseen and unaccounted for cause slips in and quakes or tremors occur, but only infrequently.

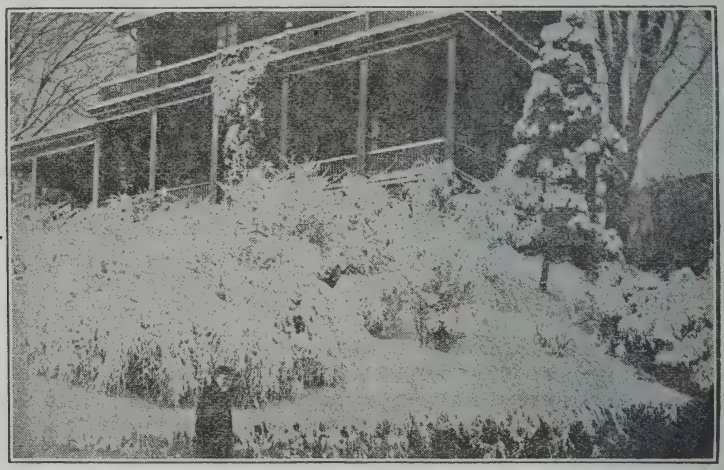
It is easier to calculate the time of coming earthquakes than to predict ordinary weather. The times of great disturbances which result in tornadoes, hurricanes and other unusual storms or quakes are little trouble to the forecaster. It is the times when conditions are so nearly normal that nothing unusual is sufficiently outlined in weather causes that puzzle the forecaster.

WEATHER FORECASTS FOR MARCH, 1921.

The First Storm Period for March is scheduled for the first three days of the month.

ASTRONOMICAL CONFIGURATIONS. Moon's last quarter falls on the 1st; Moon is at south declination the 2nd; Moon at apogee the 4th; Mercury and Sun are at inferior conjunction the 2nd; Venus is at perihelion the 3rd; Jupiter and Sun are at opposition the 4th; both the Vernal Equinox and a Venus period are in full force.

A glance at the storm chart is sufficient to show one versed in our use of these charts that March this year is likely to keep up its reputation for weather of the freaky kind, as well as plenty of it. We may say, however, that although the first three days are storm period days, still there are evidences, seen at the distance of more than a full year ahead, that March may come in as a lamb and go out as a lion. This first storm period seems not likely to develop more than normal spring weather. It will probably come in with cool if not cold which will give way as low areas progress eastward. Spring rains are most



Snow, Sleet and Ice Verify Your Prediction, March 1st, 1919. Photo by W. V. Schlung, Des Moines, Iowa.

likely, altho some snow may fall in sections to northward. Real indications are that the temperatures to northward will not rise enough to allow much precipitation before the cool wave which should close the storm period about the 4th.

The Second Storm Period, regular, runs from the 5th to the 9th, inclusive.

ASTRONOMICAL CONFIGURATIONS. A Vulcan center falls on the 6th; a Mercury period begins on the 8th; Moon is over the equator on the 9th and is New on the same date; Mercury and Uranus are in conjunction the 6th; Moon and Mercury are in conjunction the 8th; Moon and Uranus are in conjunction

WEATHER FORECASTS FOR MARCH, 1921.

the 8th; Venus and the Vernal Equinox are both in the ring for the weather fight.

We are but two weeks from the center of the Vernal Equinox. If, as is sometimes the case, the full fury of the "line storm" is precipitated at this time there will be some severe storms for this period. Should seismic phenomena not appear at the earthquake center in the period, tornadic conditions will be very natural. Either quakes or severe storms are almost a certainty for days touching the 9th. Paste this in your hat. If storms predominate, they will likely be worst east of central portions of the country. If seismic causes prevail, the outburst will be near the equator. Thunderstorms would be a normal development under the circumstances, even well to northward, but are most likely to be heard from only centrally or to southward. Dense cloudiness will be natural over large sections of country, especially near the last days of the period. A family can have no truer friend at such times than a reliable barometer. Danger may not come, but if it does, a good barometer will let

Mercury's Message.—Photo by L. L. Leonard, Pekin, Ind.

you know several hours ahead. If there is no danger it will just as truly tell you. Our emphasis of this fact is not merely to sell a barometer, but to inform those who may not know the value of this wonderful instrument. We hope any forecast of danger for the spring months will fail, but we fear that some will not fail. A cold wave will swing in behind storm areas of this period, provided storminess is not prolonged into or near the beginning of the next period, which looks likely at this distance.

The Third Storm Period runs through the 11th, 12th and 13th.

ASTRONOMICAL CONFIGURATIONS. Those falling within this period are: Mars and Moon in conjunction the 12th; Saturn and Sun at opposition

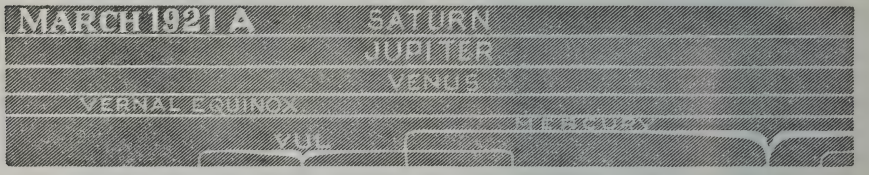
WEATHER FORECASTS FOR MARCH, 1921.

the 12th; Venus and Moon at conjunction the 12th; the presence of a Venus, Mercury and Earth equinoctial period.

Taken by themselves, these configurations might not develop anything serious, possibly no storms at all. But this period is between two very important and even dangerous configurations, and it cannot be told just how much of their venom may be projected into this period. Possibly nothing serious, but some storminess is almost certain. Temperatures should rise and barometer fall in the west by the 10th, and storm areas start eastward. Whatever of storminess which develops will touch different sections **progressively** as the areas pass eastward. Should anything abnormal appear, it will be due to the seismic disturbance just past on the 9th.

The Fourth Storm Period, regular, runs from the 17th to the 21st and possibly the 22nd.

ASTRONOMICAL CONFIGURATIONS. The center of a Mercury period falls on the 15th; a Venus period centers on the 17th; the Vernal Equinox falls on the 21st; Moon is at perigee on the 20th; is on the equator the 22nd; Mercury stationary the 15th; Venus shows greatest brilliancy the 17th; Neptune and Moon are in conjunction the 20th; Sun enters Aries the 20th and spring



begins; Mercury is at descending node the 21st; Jupiter and Saturn are both in conjunction with Moon the 22nd.

Seldom is such an array of storm causes seen at one time. Here are an average of two configurations per day for seven days, some of them among the most vicious known. Three very strong earthquake causes center within three or four days. Readers will not be satisfied if we say that there will be something doing, or that severe storms are likely. We must get down to details, but this is no sinecure. We may safely say that this period will be a season of great electrical unrest, that earthquakes are almost certain and that some hard storms with probable hail, lightning and in the north very possibly sleet. Clouds will be dense and considerable precipitation will appear in various sections. Sometimes the real equinoctial develops from one to three weeks before or after the 21st, and such may be the case this year, but we believe that this period will present a good share of the equinoctial characteristics. Should this be the case at this time, some hard blows and possibly some tornadic developments may endanger life and property. The least that can reasonably be expected is a series of eccentric storms, with shifting and in some places hard winds, hail to southward and probably northward, this period ending with

WEATHER FORECASTS FOR MARCH, 1921.

a cold snap of a day or two about the 22nd or 23rd.

The Fifth Storm Period runs through the 23rd to 26th.

ASTRONOMICAL CONFIGURATIONS. Moon's perigee the 20th, crossing the equator the 22nd, and full on the 23rd will join with the several equinox centers to aggravate storminess of this period. Venus at greatest heliocentric latitude north; Mercury and Uranus in conjunction the 25th will also add their mites to weather complications.

The first two days of this period are earthquake crisis days, and we hardly expect to get by without something worth notice in that line. The seismic causes will no doubt aggravate the opening of storminess in the west and middle west, precipitating rains and possibly snow west of the rockies and eastward. Only a short respite is promised from storm signs and realities between the last period and this. Almost every wheel of God's great weather mill will be turning during the periods running from the 17th to the 26th, and we need not be surprised if a great variety of storm characteristics appear. Unless we miss our calculations, we may depend upon seeing either rain, hail, sleet and snow in our own part of the field for this period. Possibly some parts will get a share of all, with earth tremors thrown in for good measure.

17	18	19	P20	21	E22	23	*24	*25	*26	27	28	29	30	31
T	F	S	S	M	T	W	T	F	S	S	M	T	W	T
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The Last Storm Period runs from the 28th to the end of the month.

ASTRONOMICAL CONFIGURATIONS. Besides the equinoctial centers noted before, Mars will be at ascending node the 28th; Mercury will be at his greatest elongation west on the 30th; Mercury will be at aphelion the 31st and Venus is stationary the same date. Vulcan's center is on the 29th with Moon at south declination. Moon at Last Quarter the 31st.

There are good chances for regular spring weather for this period. If this seem too indefinite we may say that rains with possible hail in some sections will appear with shifting winds, considerable cloudiness. Possibly Mercury may have lost his grip by this time, and cloudiness be less dense and sleet less likely. Clearing weather will appear in the west by the end of the month.

The First Earthquake Period runs from the 7th to the 11th, with the 9th as the central day, quakes or volcanic action breaking out within two days of the 9th.

A time of seismic disturbance falls on the 16th or a day or so before or after that date.

The most critical time for seismic phenomena and weather freakishness lies between the 19th and 24th. Midnight of the 22nd will be the crisis.

WEATHER FORECASTS FOR APRIL, 1921.

The First Storm Period for April is reactionary, running through the 3rd, 4th, 5th and 6th.

ASTRONOMICAL CONFIGURATIONS. The configurations noted for the last storm period for March apply still to the 1st of April, as that former period runs over to the 1st. For the present period we have Moon in apogee the 1st; Venus and Mars in conjunction the 4th; Uranus and Moon in conjunction the 5th; Mercury and Moon in conjunction the 6th; Moon on the equator the 6th; Sun in annular eclipse the 7th, visible at Washington; New Moon the 8th.

The 1st, being the last day of the former period, should be cool with clearing weather. Temperatures will begin to rise and barometer fall in the west by the 3rd or 4th and storm indications will appear and move eastward. As we are nearing an earthquake period, it is a problem whether storminess will develop early, say by the 3rd or 4th, or whether the stronger causes will pull

Formerly the Grand Hotel.—Photo by Elsie M. Rushfelt, Hawley, Minn.

development of storms forward to near the end of the period. We believe that indications are toward the latter. Lightning, which will have been more frequent during the last two or three storm periods, will be less frequent and intense after this period closes. The Vernal Equinoctial will about expend itself with this period. Just whatever the details may be, rain with lightning and probably hail will strike many parts of the country during this period, and there is likelihood of tornadic phenomena and some hard "blows" ending with a cold wave for this time of year rushing in from the northwest.

The Second Storm Period runs through the 9th, 10th, 11th and 12th.

ASTRONOMICAL CONFIGURATIONS affecting this period; Earth crossing the equator the 6th; the eclipse of the Sun the 7th; New Moon the 8th. Other configurations for this period are, Moon in conjunction with Venus and Mars the 9th; a Vulcan center the 10th; Moon at north declination the 12th.

WEATHER FORECASTS FOR APRIL, 1921.

Indications are that unsettled if not stormy weather will occupy the time when clearing weather would be on under normal conditions. Moon on the equator the 6th and New the 8th with Sun in eclipse the 7th will hold cloudiness and unsettled weather at least, up to about the beginning of this period. Seismic phenomena may be severe for this time, if so, weather disturbances may relax and give a day or two of clearing weather between the periods. Reactionary causes from the last period may be sufficient to continue heavy rains and possibly some **violent** storms into this period. Lucky is the man whose family has access to a good barometer at such times as this. Strange that men who would spend hundreds of dollars to protect or save their families from disease, neglect to spend a few dollars to protect them from the fury of dangerous storms. Most of March, early April, last of May and nearly to middle June are likely to prove the value of the barometer this season. During late April and most of May, earth is passing through the great electro-magnetic belt in her journey round the Sun. This passing is marked each year by greater

After Being Propelled By Wind. Henry Wolfe.
Photo by A. P. Werner, Deweese, Neb.

tendency to thunderstorms, heavy rains and if Venus be present, hail and wind storms. This season such things will be intensified by the intenser earthquake tendencies as we approach the Saturn Equinox which falls in 1922. In lieu of tornadic developments at the seismic periods, we may expect that hurricanes will appear more frequently in the Gulf regions and on the great lakes at the quake dates and touching them. Remember also that during this season of the year, there is tendency to almost daily showers, often with lightning, coming at nearly the same hours of each day. This is especially likely this year. A cool wave will close this period, lasting for a day or two.

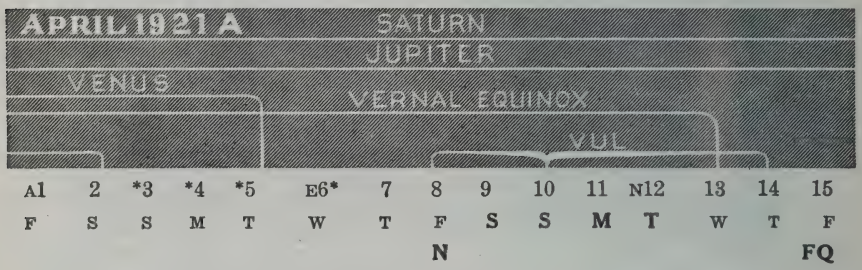
The Third Storm Period, reactionary, runs through the 16th, 17th, 18th and 19th.

ASTRONOMICAL CONFIGURATIONS. Moon is at first quarter the 15th; Moon at perigee the 16th; on the equator the 19th; Moon and Neptune are in conjunction the 16th; Moon and Jupiter in conjunction the 18th; Moon and

WEATHER FORECASTS FOR APRIL, 1921.

Saturn in conjunction the 19th; Mercury at greatest heliocentric latitude south the 20th; Moon in total eclipse the 21st.

Some of these do not come entirely within the period, but are some of them of such general character and so effective (as the eclipse, for instance) that they will project their influence into this period. As this period ends before the beginning of an earthquake center, the latter may not get recognition until the next storm period. In fact, earthquake and volcanic phenomena are more likely than ordinary storms for most of the time between the 16th and 24th. There will be frequent showers in some sections and even heavy rains in others, with tendency to shifting winds or hazy skies. This will be a time of great electrical unrest, when many phenomena of different characteristics will make prognostication a problem hard to solve. No less than four important earthquake causes center within seven days, four of which days we have named for the storm period. Volcanic outbreaks are almost certain in sections where their habitat may be. The quake-belts of the earth will be under strain and the atmosphere will be greatly disturbed over large sections of earth, on sea as well as on land. Watch and see if there are not some unusual weather phenomena during this period.



The Fourth Storm Period is regular, running from the 20th to the 24th inclusive.

ASTRONOMICAL CONFIGURATIONS. Those affecting this period are: Saturn and Moon in conjunction the 19th; Mercury at greatest heliocentric latitude south the 20th; Moon in total eclipse (visible) the 21st; Neptune stationary the 21st; Venus and Sun at inferior conjunctions the 22nd; Moon over the equator the 19th; a Vulcan center the 21st; Full Moon the 22nd; the beginning of a Mercury period the 20th.

It seems likely from the distance of fourteen months beforehand, when we write these forecasts, that this period will be practically a continuation of the period just named for the 15th to 19th but with intenser causes and intensified phenomena. The barometer should be closely watched, every black ugly looking cloud scanned for tornadic developments, and all precautions taken to protect people, live stock and property. We hope that this warning will prove a needless one, but such is not indicated now. Anyway, should it be fully heeded and all precautions taken, yet no danger develop, no harm will have

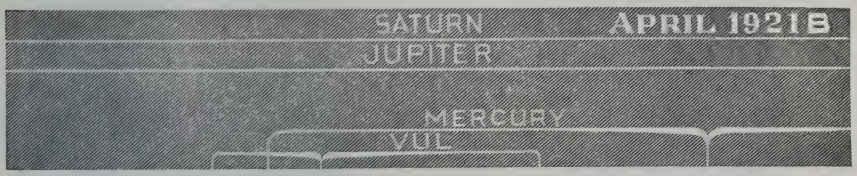
WEATHER FORECASTS FOR APRIL, 1921.

been done, but if the reverse proves true,—well, it's up to you. Scoff at this warning as unnecessary if you choose—we hope it was not necessary as well as anyone—but we are trying to do our duty as far as our knowledge allows. We believe that volcanic unrest is inevitable at least part of the time during the ten days 16th-26th and severe storms with violence probable in many sections during the same time. However, clearing, cooling weather is likely to set in about the 24th or 25th, with sleet possible well to northward in the U. S. Frost is likely to end up the period.

The Fifth Storm Period, reactionary, runs through the 26th, 27th and 28th.

ASTRONOMICAL CONFIGURATIONS. Mercury and Venus in conjunction the 28th and Moon at apogee and last quarter the 29th are the principal storm causes for this period except what may come forward from the last period.

We must also count on Mercury for cold rains wherever rain develops, but on the whole this period promises far less storminess than the last. It falls, however, near the center of a Mercury brace which will probably produce cloudiness and some precipitation during the period. Northern borders may experience sleet and the storm period will most likely end with a cool wave with frost not improbable as far south as middle sections.



P16*	*17	*18	E19*	20	21	22	23	24	25	S26*	*27	*28	A29	30
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Three earthquake centers are indicated for April, two regulars and one reactionary.

The First Regular Period runs from the 5th to the 10th, central within probably 48 hours of mid-night between the 7th and 8th. Prospects for seismic phenomena, volcanic action and kindred developments are very good for this period.

Prospects for reactionary tremors appear for about the 15th, 16th or for days touching these. Indeed, as already stated in the weather forecasts, there is good prospect for the reactionary of the 15th-16th running forward into the regular which would fall normally about the 21st and 22nd.

We realize that no seismic phenomena may appear for any of the periods we name in sufficient intensity to get named in the papers, but readers may wager high that such phenomena will appear very nearly at the times we predict if they appear at all anywhere near those dates.

WEATHER FORECASTS FOR MAY, 1921.

The First Storm Period for May is regular, running from the 2nd through the 5th.

ASTRONOMICAL CONFIGURATIONS. Neptune is at quadrature the 1st; Uranus and Moon are in conjunction the 2nd; Venus and Moon are in conjunction the 5th; Jupiter is stationary the 6th; Moon is over the equator the 3rd; a Vulcan center falls on the 3rd.

We can truthfully say that if April and May do not prove to be banner earthquake months this year, it will not be because no seismic causes are in evidence. No less than five seismic breeders appear in April and this month we find them located on the 1st, 3rd, 7th, 11th, 16th, 21st and 30th. This is not saying that earthquake or volcanic activities will appear on all these dates. It does, however, indicate a month of unusual storm activity, with seismic strain well distributed through the month. The cool wave on at the end of April will

A Farm Home Near Berne, Ind.

break down in the west by the 1st or 2nd, and indications are that the regions west of the central will get the brunt of storms of this period, unless the period is prolonged abnormally by New Moon of the 7th. In that case more storminess would reach eastern sections. Unless considerable electro-magnetic tendency is vented in volcanic and quake phenomena, this month will show abnormal storminess. Tornadic developments are quite likely in western sections during the first storm period. Otherwise, thunderstorms, shifting winds, auroras and halos will be in evidence with considerable rainfall. Frost may touch in north sections of the U. S. at the end of this period.

The Second Storm Period is reactionary, running through the 9th, 10th and 11th.

ASTRONOMICAL CONFIGURATIONS. Moon is new and in conjunction with Mercury the 7th; Moon in conjunction with Mars the 8th; Mercury at ascending node the 9th; Mercury and Sun at Superior conjunction the 10th; Moon at north declination on the 10th and at perigee the 11th.

WEATHER FORECASTS FOR MAY, 1921.

Settled weather may be of short duration between the last period and this, but that would not be abnormal for May. There are times when the weather is unsettled for two weeks at a time, thunderstorms appearing almost every day at about the same hour. Should one of these May tantrums be on at this time, this second storm period may lap into the last. There is never freedom from the likelihood of tornadic development through the spring months, but we do not read of tornadoes for this period in the signs written in the Solar System at this time. We do not say there will be none, but we do not see any reason for predicting them for this period. Should the last period just past have such storms, something of that kind may come over into this period as suggested at the beginning of these predictions for May—"settled weather of short duration, etc." At least a couple of cool days and cooler nights are scheduled for about the 11th or 12th.

Home of Frank Byer, Deweese, Neb.—Photo by A. P. Werner.

The Third Storm Period for May runs from the 13th through the 17th, with prospects of most storminess east of central parts.

ASTRONOMICAL CONFIGURATIONS. Neptune and Moon are in conjunction the 13th; Mercury is at perihelion the 14th; Moon is at first quarter the 14th; Jupiter and Moon are in conjunction the 15th; Saturn and Moon are in conjunction the 16th; Moon is over the equator the 16th.

This storm period runs through a reactionary seismic disturbance which may accelerate storm development, but on the whole we believe that no very severe storms need be looked for. Sudden thunder showers will no doubt appear, and some short "blows" are to be expected. Something bordering on tornadic may appear on or near the 15th or 16th in central to eastern sections. The moon crosses the equator the 16th but at first quarter, hence not with the menace it might mean if at new or full. Therefore, storms will likely run their regular course for the most part, touching different sections progressively from west to eastward. All should remember that we are passing through the

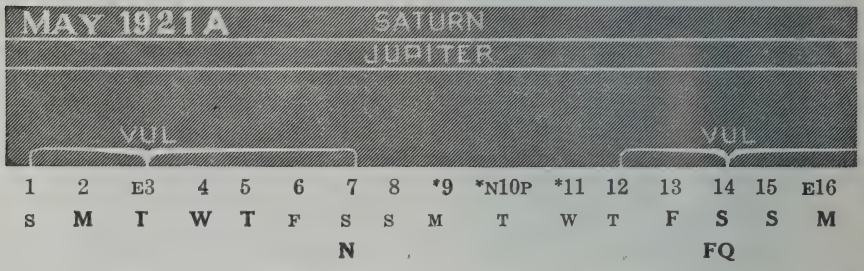
WEATHER FORECASTS FOR MAY, 1921.

electric belt during which time thunder showers are sometimes daily, usually appearing at about the same time each succeeding day.

The Fourth Storm Period, reactionary, runs through the 19th, 20th, 21st and 22nd.

ASTRONOMICAL CONFIGURATIONS. Mercury and Mars are in conjunction the 19th; Venus at descending node the 19th; Saturn is stationary the 21st; Moon is full on the 21st; Moon is passing from the equator toward south declination which is reached the 24th.

The character of the seismic developments for the 16th and days touching will probably exert an influence upon the weather of this period. Seismic causes are not strong for the period, but may produce tremors at least. Temperatures will rise and barometric readings fall in the west by the 19th, and well defined storm areas will organize and start eastward. As this period centers exactly at an earthquake center, considerable storminess may be expected as the areas pass to the Atlantic. Some severe storms will appear, not of necessity tornadic in nature, yet such are natural under the conditions, but sudden "blows" may be expected, with many big, black storm clouds developing



here and there. At this time a good barometer will prove a friend in need by giving warning if there is danger, or reassuring if there is no danger. Even if black ugly looking clouds come from the west, turning copperish as they draw nearer, but your barometer does not sink to low readings, you need not fear the storm—there is no danger. But sometimes the barometer will suddenly fall to low readings when clouds do not look dangerous—don't make a mistake—accept the warning and get to safety if you have a place of safety. There seems from the distance of more than a year in advance indications of much stormy weather and dangerous quakes for the last ten days of May, 1921. A cool night or two will close up this storm period.

The Fifth Storm Period, regular, runs from the 24th through the 28th, with possible storminess also for the last three days of May.

ASTRONOMICAL CONFIGURATIONS. Moon turns northward from south declination the 24th; Moon is at apogee the 27th; a Vulcan center rests on the 26th; Mercury is at greatest heliocentric latitude north on the 24th; Venus is at greatest brilliancy the 28th; Moon and Uranus are in conjunction the 29th;

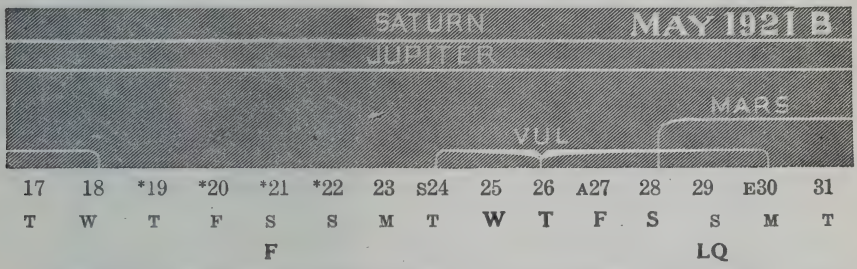
WEATHER FORECASTS FOR MAY, 1921.

Uranus is at quadrature the 31st; Jupiter is at quadrature also the 31st; Moon on the equator the 30th.

We include these configurations for the last three days as they indicate considerable perturbation, yet are not really within a storm period. Weather will be hot and sultry part of this period, with high electric tension tending to wakefulness for nervous people. We believe that storminess will develop slowly, hence that the greatest storminess of this period will strike east of the central valleys. Take note—the Mars influence begins about the last week of May. Watch weather for this time, as it is likely to be the criterion of weather matters generally for three months to come so far as general characteristics are concerned.

The First Earthquake Period runs from the 3rd to the 7th and days touching these. Indications for quite decided quakes about the 2nd to 4th, and again about the 8th or within 48 hours of that date.

A Second Earthquake Period runs from the 17th to the 21st, with quakes, tremors or volcanic action likely within two days of the 16th and the 21st. Scattered tremors are possible from the 21st forward to the end of the month.



The Third Earthquake Period runs through the last four days of May; with more likelihood of severe seismic developments than for the last sixty days. Earth is over the equator the 29th and two large planets are at quadrature the 31st. We believe that the last half of May will show considerable storminess, probably lightning, and seismic disturbances, enough of the latter to attract the attention of the world. Watch and see.

Philip Del Vechio, Paterson, N. J., has this to say about the quakes at and near Los Angeles, California, July 16th, 1920:

"On page 4 of your July issue of your magazine, you predicted earthquake within 48 hours of midnight of the 14-15th. Newspaper reports show that Los Angeles was shaken by four quakes the 16th. Considering that your prediction was made one year ago, anyone that will not acknowledge that it was "some prediction" ought to go and hang himself. This is not the first time that I have noticed the accuracy of your predictions."

We can tell from a glance at the storm chart when completed if earthquake or any very abnormal thing in weather is likely, and, with a few moments calculating, **just when** it is most likely. During the first six months of 1920 every quake or tremor we predicted appeared on time with **one exception.** If any occurred outside the periods we set for them, we did not hear from them.

WEATHER FORECASTS FOR JUNE, 1921.

The First Storm Period, reactionary, runs through the first three days of June, possibly including the last day or two of May.

ASTRONOMICAL CONFIGURATIONS. Jupiter is at quadrature the 31st of May; Uranus is at quadrature also the last day of May; Moon and Venus are in conjunction the 1st; Moon is new on the 5th; a Mercury influence begins the 5th; the Summer solstice begins to be felt in weather matters at this time.

Seen from a distance of more than a year ahead, the last three days of May promise something worth while in seismic if not in regular weather matters. However that may be, any bad weather conditions for this first period of June will either come over from the last period, or this period will pass without anything serious in weather. If it were near full moon instead of at new, hot sultry days and nights uncomfortably warm would rule. Moon crossed the equator the 30th of May, northward bound, and this may bring warm weather

What Old Boreas Left of a Home at Fergus Falls, Minn.—L. C. Stark, Chicago, Ill.

in spite of the time of new moon which is normally the coolest part of every month, for the earth itself, not of necessity for atmospheric coolness. Seeing that this period is between two quake periods, both with strong quake factors, some dangerous weather may also appear within the period. From this time on through June and the first half of July, look for solstice symptoms in weather. Winds will be "shifty", storms ditto, both coming from awkward and unexpected directions, thunder storms passing, then coming back sometimes with cloudburst effect, weather matters being quite unreliable. Don't forget that Mars will no doubt carry forward characteristics of weather for the beginning of June as far as into August, possibly to the first of September.

The Second Storm Period, regular, runs from the 5th through the 8th.

ASTRONOMICAL CONFIGURATIONS. Moon is new the 5th; at north declination the 6th; in perigee the 8th; in conjunction with Mars the 6th; in conjunction with Mercury the 7th; Saturn at quadrature the 9th; a Mercury in-

WEATHER FORECASTS FOR JUNE, 1921.

fluence begins the 5th; also the summer solstice begins near that date; a Vulcan period centers on the 6th.

Keep in mind that seismic and volcanic phenomena are almost certain somewhere touching the 5th to the 9th, but if these fail, weather is certain to be disturbed greatly for this period. Hailstorms will visit some western parts the 5th, 6th or 7th, and cool rains will appear in other parts. A season of electrical unrest centers about this time, and electric machinery and appliances will record the disturbances. If frost has not appeared for about the 4th, or days touching, it will be quite likely at the end of this storm period. We really believe that frost will be felt in northern states the 4th or 5th, especially in eastern parts. Lower barometer and higher temperatures will have appeared in the west by the 5th, however, and storm areas pass eastward. Considerable bluster is likely with black clouds looming up, ugly and threatening in the

"One Shall Be Taken and the Other Left."—Photo by L. C. Stark, Chicago, Ill.

western sky. Watch your barometer—it will warn you if there is any danger. If you have no barometer, spend your last dollar for one if necessary. You owe it to your family to do this much if you can make them safer, or **feel** safer.

The Third Storm Period, reactionary, runs through the 11th, 12th, 13th and 14th inclusively.

ASTRONOMICAL CONFIGURATIONS. Moon is on the equator and at first quarter the 12th; a Mercury period centers on the 11th; Moon is in conjunction with Neptune the 9th; Saturn is at quadrature the 9th; Mercury is at greatest elongation east the 10th; Moon is in conjunction with Jupiter the 12th; Moon is in conjunction with Saturn the 12th; remember the summer solstice.

Seen from more than a year ahead, one can hardly expect that all these storm causes will give promise only. A strong earthquake cause lies within the period and another is within 48 hours of the period. Thunder storms are almost certain. The center of a Mercury period and near approach of a Venus

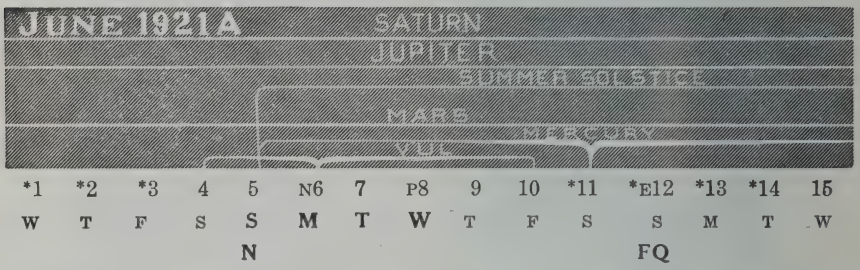
WEATHER FORECASTS FOR JUNE, 1921.

period give good promise for some hail while this storm area is passing. Black clouds will come up from the west with bluster, winds will shift suddenly and storms turn out of their regular course. Tornadic developments and phenomena are very probable during the first half of June and quite likely at any storm period during the month. This is more nearly the truth this year than usual. Early grain that has headed out will likely be blown down flat and some may be injured by hail. A good barometer is a friend in need at such times. We have one that has been in constant service over twenty years, and is just as faithful as ever in its work. We would not like to keep house without it or the hygrometer that has hung on the same wire almost as long.

The Fourth Storm Period runs through the 17th and 21st inclusive.

ASTRONOMICAL CONFIGURATIONS. Uranus is stationary the 14th; Mercury is at descending node the 17th; Sun enters Cancer and summer begins the 21st; a Vulcan center falls on the 18th; Moon is at south declination the 19th and full the 20th.

Although it is not at all likely that all the different weather phenomena we mention for a period will be experienced in any one section, still such a thing



is possible. But there is little danger of this. But different sections will each receive its own share of some of the weather phenomena, and some might suppose that some parts get more than their share. With such an array of electrical disturbers at one time, it is not easy to say just what turn weather matters may take. We shall look for considerable storminess for these periods of June, with sufficient variety to satisfy almost anyone. We believe that many storms of the middle parts of June will be violent in nature and practice. Not necessarily tornadic, but of the blustery, windy cloudburst kinds, that will destroy much value in crops that are in their way. The good housewife's little chicks and turkeys will suffer if not looked after and given shelter. Mars will be strictly "on his job" as a stabilizer so to speak, holding weather characteristics to those of the last of May and first of June. The summer solstice the 21st and Moon at perigee the 23rd may prolong this storm period beyond its normal limits.

The Fifth Storm Period, reactionary, runs through the 24th and 27th inclusive.

ASTRONOMICAL CONFIGURATIONS. Venus is at aphelion the 23rd;

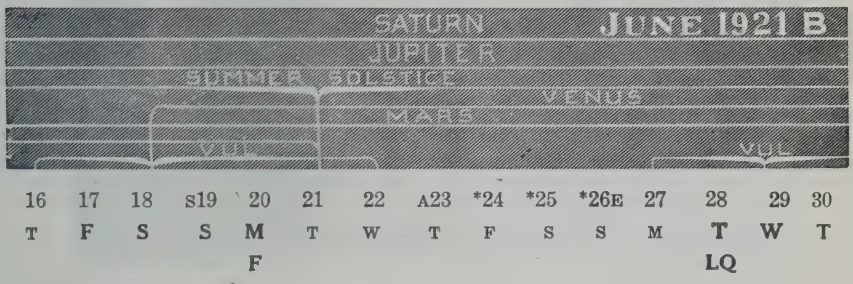
WEATHER FORECASTS FOR JUNE, 1921.

Mercury is stationary the 24th; Moon and Uranus are in conjunction the 26th; Mercury is at aphelion the 27th; Mars and Sun are in conjunction the 29th; Moon is at apogee the 23rd and on the equator the 27th.

Most of the storm causes for this time are of the "minor" kind, but are sufficient in numbers to produce considerable storminess. Even tornadic storms are not impossible, yet are not very probable for most sections. Weather is likely to be hot in daytime, but probably cool at night in many parts. Indications are from this distance that more or less storminess may continue up to the end of June, but not, probably, with as much violence as for most of the month. We may say to the farmer for his encouragement, that we believe that all early crops will have plenty of moisture this season for a fair if not a bunker crop. Late crops will most likely fail to considerable extent for lack of sufficient rainfall.

The First Period of Quake probabilities falls on the 6th, or dates touching that date. We will set the crisis at within 48 hours of the sixth. Reactionary tremors, possibly real quakes, may center about the 12th also.

The Next Quake Center falls within 48 hours of the 21st and 22nd, with



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reactionary tremors about the 26th or 27th. Vulcanus will be busy at these quake seasons, and volcanoes will manifest his activity. Vulcan, in ancient mythology was the blacksmith whose workshop was the volcanic mountains, where he forged thunderbolts and threw them up to Jupiter to be flung down upon the hapless heads of mankind.

The disturbances characteristic of the Venus periods will not be manifest to any abnormal degree this year, because Venus is not present, meteorologically speaking. Still there is prospect of more electrical unrest than for most of the year for other times because we are in the 45 degree angle explained elsewhere. Especially at and near the earthquake centers, lightning will play its part in storms, electrical appliances will manifest the electrical strain and in some cases "balk" and cause trouble for the operators. Cases have been known where telegraphing was possible only by grounding the wires and using only the **ground currents.** This will be the method of telegraphing in the not far away future anyway.

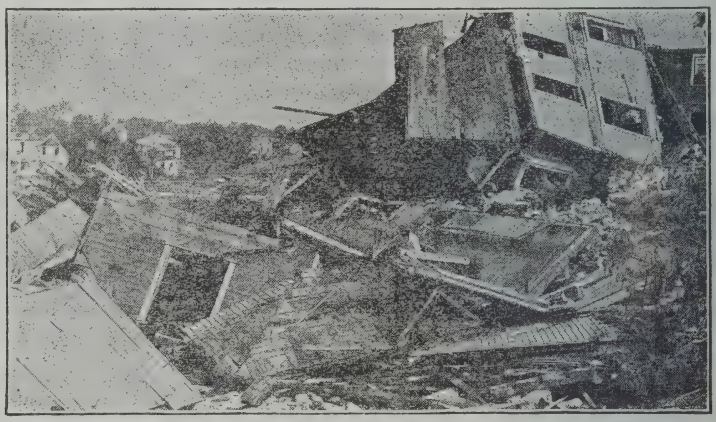
WEATHER FORECASTS FOR JULY, 1921.

The first day of July is the last day of a regular storm period which began June 28th. This period was well outlined in June forecasts.

The First Storm Period for July is reactionary, running through the 4th, 5th, 6th and 7th.

ASTRONOMICAL CONFIGURATIONS. Venus is at greatest elongation West the 1st; Moon and Venus are in conjunction the 1st; Earth is at aphelion the 4th; Moon and Mars are in conjunction the 5th; Moon is at north declination the 4th; New the 5th and at perigee the 6th; a Venus center falls on the 6th; a Mars center falls on the 8th; the summer solstice ends about this time.

There is probability of two or three days of fine summer weather between the last storm period and this one. That is, except the ever present possibility of sudden thunder showers during all Venus periods, unless in winter. But another storm area will be on its way eastward by the 4th, reaching central val-



Two Homes and One Church, "All Of A Heap."—Elsie M. Rushfelt, Hawley, Minn.

leys by the 5th and ending up with considerable rain and electrical disturbance in eastern sections the 6th or 7th. From now on storms will be less erratic than for the past few weeks, but the general characteristics of early June weather will continue until the middle of July at least. Moon at north declination calls for sultry atmospheric conditions, but New Moon demands coolness of earth's interior. If weather conditions are generally normal, corn will grow best and mature fastest from the 11th to about the 25th or 26th. The same facts and pointers will hold for these dates in June. Pin these statements in your hat. No matter what atmospheric conditions may be, our claims will hold for the growth of vegetation.

The Second Storm Period, regular, runs through the 10th and 14th inclusive.

ASTRONOMICAL CONFIGURATIONS. Mercury is at inferior conjunction

WEATHER FORECASTS FOR JULY, 1921.

the 7th; Mercury and Mars are in conjunction the 9th; Moon and Jupiter are in conjunction the 9th; Saturn and Moon are in conjunction the 9th; Moon is over the equator the 10th; Moon at First Quarter the 11th; a Vulcan center falls on the 11th; a Venus influence is in full force; the Mars period continues as an intensifier and stableizer.

Only one of the configurations mentioned for this period are what we call "major", but so many on one date cannot but get up some abnormal weather conditions. We have not laid great stress upon it, but there are indications of tornadic storms during both June and July. Watch your barometer during these midsummer storm periods. Sudden thunder storms accompanied by shifting winds and considerable hail in sections may be expected. At most of the regular storm periods for July, telegraph and telephone lines will be "freaky" and electrical machinery and equipment will show the effects of the

Footsteps of Old Boreas. Fergus Falls, Minn.—By L. C. Stark, Chicago, Ill.

electrical strain and perturbation. Make a note of it—every wheel of the great weather mill is turning all through July, even as they were in June. Don't expect fair weather and sunshine to excess for these months. A West India hurricane in Gulf regions might wake up either month with perfect normality, considering the other conditions. Crops that suffer from hail will suffer during these two months of 1921.

The Third Storm Period runs through the 17th, 18th and 19th.

ASTRONOMICAL CONFIGURATIONS. Venus is at greatest heliocentric latitude south the 15th; Mercury ditto the 17th; Mercury is stationary the 18th; Moon is at south declination the 17th; Full Moon falls on the 19th; Venus, Mars and Mercury periods are all in force.

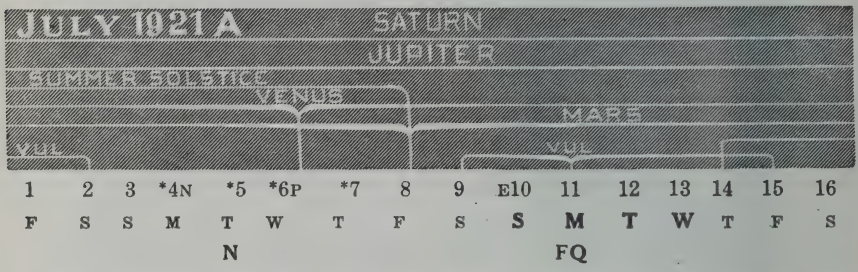
The earthquake disturbance which centers about the center of this storm period will no doubt intensify storm making causes for this time. Except for this fact we might look for two or three days of fine weather between storm

WEATHER FORECASTS FOR JULY, 1921.

periods. Even yet they may appear, as only one "major" cause falls within the period. Dense cloudiness, fogs, rains with hail accompaniment will show the Venus and Mercury characteristics at this time for many parts of the country. Especially is this true for the northern tier of states. Considerable electrical unrest will be manifest during this period in lightning and thunder, auroras and halos, disturbance of telephone and telegraph lines, etc., etc. These things are usually in evidence when Venus is present with her influence in weather matters, especially if the storm period centers near a seismic center. The last day of this period is the center of an earthquake period. Most of the storm periods for June and July will end with cooler, clearing weather.

The Fourth Storm Period, regular, runs through the 21st and 25th with intervening days.

ASTRONOMICAL CONFIGURATIONS. A conjunction of Moon and Uranus the 23rd; Moon in apogee the 21st; Moon over the equator the 24th; a Vulcan center the 22nd; a Mercury center the 25th; the combined influence of Vulcan, Venus, Mars and Mercury will insure some weather perturbations for this period.



The configurations for this period are all "minor" but the weather will not be all sunshine. We shall have been passing through a season of great electrical unrest and as this begins to break up and more normal conditions come in there will be considerable variety in weather phenomena, a part of which falls within this period. It must be kept in mind that at about the time of Moon's Last Quarter, Earth suddenly "speeds up," so to speak, like a motor when a load is turned off, and the interior of the Earth cools from that time on the First Quarter again. Then Earth "slows down" like a motor when a load is turned on, heating internally until the time of Last Quarter again. For these reasons, crops whose roots are their value should be planted in the "dark" of the moon, when the earth is cool and upward growth will be slow, thus developing root growth. On the same principle, plant top crops when the Earth is internally warm and the plants will "shoot up" with little root and much top growth. No matter what the temperature of the atmosphere may show, this internal heating and cooling of the Earth goes on as regularly as the phases of the Moon.

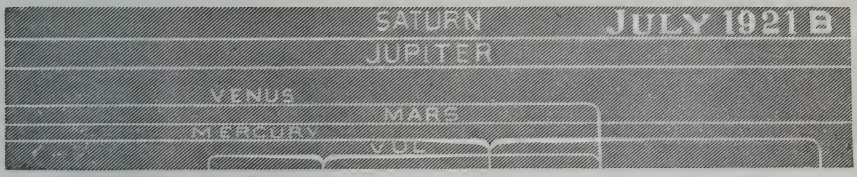
The Fifth Storm Period, reactionary, runs through the last four days of July.

WEATHER FORECASTS FOR JULY, 1921.

ASTRONOMICAL CONFIGURATIONS. Moon's Last Quarter the 27th; Moon at north declination the 31st are all the phenomena to be reckoned with for this period.

Perhaps we should have mentioned the last few days of the Mercury period which ends the 31st. This may serve as a disturber of the otherwise normal summer conditions which should rule in this period. Showers, some of them with lightning and thunder, are quite likely and winds will be unstable and shifting all through the month during storminess. We believe, also, that May, June and July will furnish enough moisture to mature early crops, and to modify to some extent the "hot dry spell" which so often ruins later crops over large sections of country. There will be hot, dry weather for some parts in July and August, but not, we believe to as marked a degree as for more than half of the seasons. Field crops should be well worked during the dry seasons, and weeds kept well down, for weeds use up more moisture than almost any planted crop as they are usually more hardy and grow more persistently.

Earthquake periods will not be as distinct and well separated in July as in some months.



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Quakes are almost as certain as death and the taxes within 48 hours of midnight between the 5th and 6th of July. Possibly only tremors will appear, but indications for real shakes are good.

Reactionary Tremors or Quakes are due again about the 10th, not far from the Earth's equator.

A Moderately well defined quake center falls on the 19th and another reactionary period on the 24th or days touching those we name.

Earthquakes hold about the same place in the minds of people generally, and in the theories of all the scientists of whose work or theories we have knowledge, that weather in general used to hold, that is, that these phenomena are clouded in mystery and governed by chance. To attempt to fortell earthquakes or volcanic activity as to date is even now looked upon as extreme foolishness, notwithstanding such forecasts have appeared in the weather forecasts of Rev. Irl R. Hicks for several years past, and have proved from 80 to 90 per cent correct. Various "effects" of earthquake causes have been given credit for causing the quakes, such as the "slipping fault" theory, but none seem to get down to bedrock causes of both quakes and effects.

WEATHER FORECASTS FOR AUGUST, 1921.

The First Storm Period for August, regular, runs through the 2nd, 3rd, 4th, 5th and probably the 6th also.

ASTRONOMICAL CONFIGURATIONS. Moon is at perigee and Full the 3rd; a Vulcan center falls on the 3rd; Mercury and Moon are in conjunction the 2nd; Mars and Moon are in conjunction the 2nd; Neptune and Moon are in conjunction the 3rd; Mercury is in ascending node the 5th; Moon is over the equator the 6th; Jupiter and Moon are in conjunction the 6th; Neptune and Sun are in conjunction the 6th.

The last few days of July constituted a storm period, of how much intensity has developed by this time. Western portions of the United States will no doubt get the greater share of storminess for this first August period, as storm conditions will be likely to develop early in the period. In such case storms would be more likely to touch western sections before their energy is spent. As the

A Barn At Berne.—Photo by Jacob Gerber, Berne, Ind.

first earthquake center for the month and this storm center are identical, chances are very good for storms of the severe kind. There are three earthquake causes within this period. Aside from these there is nothing to indicate anything of a serious nature. Should seismic phenomena appear early in the period, storms are likely to be of milder kind and shorter in point of time of duration. A day or two of cooler weather will follow the storm areas.

The Second Storm Period, reactionary, runs through the 8th, 9th and 10th.

ASTRONOMICAL CONFIGURATIONS. Saturn and Moon are in conjunction the 6th; Mercury is at perihelion the 10th; Moon's first quarter is on the 10th; Mercury and Mars are in conjunction the 10th.

Our slate is clearer of storm indications here than for most of the year thus far up to this time. There may be local showers here and there, but generally speaking, "Hot sultry August" seems likely to be demonstrated so far as this

WEATHER FORECASTS FOR AUGUST, 1921.

period goes. If Mars came in during storminess, this fact may modify what we have just said, but chances are very good for light rainfall at or near time. We believe that this season will have more rain than has fallen one season during the last two or three years, but not, we believe, enough great damage to lowland crops. A cool night and day or two will follow storm period.

The Third Storm Period, regular, runs from the 13th through the 17th and possibly the 18th also.

ASTRONOMICAL CONFIGURATIONS. Moon is at south declination the 13th; a Vulcan center falls on the 14th; Moon is at apogee the 17th and full on the 18th; Mercury and Neptune are in conjunction the 14th.

About the time of the end of the last storm period, Earth will be at her warmest point for the month. The best time for growth and maturing of crops

Not Even Churches Are Exempt.—By Elsie M. Rushfelt, Hawley, Minn.

runs from the 10th to the 26th. This is supposing of course that there is enough moisture to allow growth of crops, which is not always true in August for many sections of country. The fact that an earthquake center falls just after the end of this period, normally, may tend to draw out the storm period a day or two longer. Normally it would end the 17th at farthest. As this period ends, the Mars influence will let go as it were, and weather conditions come again under local cause control. Also, about this time the influence of the Autumnal equinoctial will begin to appear in storms.

The Fourth Storm Period, reactionary, runs through the 20th, 21st and 22nd.

ASTRONOMICAL CONFIGURATIONS. Moon passed Full on the 18th and crosses the equator the 20th; Uranus and Moon are in conjunction the 19th; Mercury it at his greatest heliocentric latitude north the 20th; Mercury and

WEATHER FORECASTS FOR AUGUST, 1921.

Sun are at superior conjunction the 23rd; Earth's equinoctial will be felt in weather matters for the next few weeks.

If the season as a whole has been and is still about a normal one, this part of the month, as already mentioned, should be a good growing time. As nearly as we can read conditions a year ahead, characteristic summer weather is to be expected without any great changes of temperature. The opening days of storm period may be hot and sultry, but storms of the period will not be dangerous to any great extent for most parts, although there may be some reaction as we pass from under the Mars influence. Storm areas will pass regularly eastward with accompanying cloudiness and rains here and there, but we look for some need of moisture in many parts through August. Just where this lack will be most in evidence will depend upon the exact location of the wet and dry belts.

The Fifth and Last Storm Period is regular, and runs from the 25th to the 29th.

ASTRONOMICAL CONFIGURATIONS. Mars and Neptune are in conjunction the 24th; Moon's Last Quarter falls on the 26th, which is also the

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center of a Vulcan period; Moon and Venus are in conjunction the 30th; Moon and Neptune and Moon and Mars are in conjunction the 31st; Uranus and Sun are at opposition the same day, the 31st.

Considerable storminess is indicated for the last six or eight days of August. We believe that eastern sections of the country will get the most of it. This, because so many of the causes named fall near the end of the month, hence storm areas will pass east of central parts before real storminess appears. The eastern half of the country will see considerable cloudiness and drizzle if such develop, because of the incoming Mercury period, which begins about the 26th or 27th. A change to cooler will appear as the storms pass off into the Atlantic, probably for the last two days of the month.

The First Earthquake Period runs from the 1st to the 7th, with the crisis within sixty hours of the 4th. Indications for this time are very marked, and Earth will scarcely get by without at least strong tremors if not real quakes. Such phenomena are most likely near the equator, and at the side of the earth opposite the Moon at the hour of the phenomena.

The Second Regular Earthquake Center falls from the 16th to the 21st,

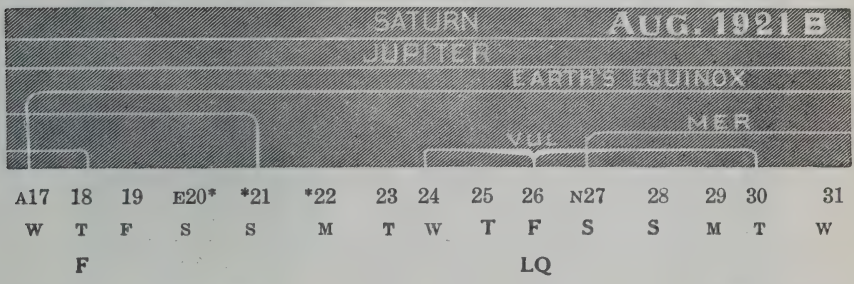
WEATHER FORECASTS FOR AUGUST, 1921.

the center resting on the 19th, within forty-eight hours of noon that date. Indications are not quite so strong for this time as at the first period, but are still quite marked. At this time the greatest disturbances are likely on the side of Earth nearest the Moon, at whatever hour they strike.

Secondary Disturbances will be due touching the 10th and 26th when tremors may be heard from in the quake belts or zones. Do not forget what has been said about the oncoming Saturn equinox, in its connection with the intensity of quake and similar phenomena.

It must be admitted that the solar system is a great electro-magnetic plant, with the electric element plying between all the bodies of the system, always, but not constant as to quality, quantity or power. Thus it is impossible but that not only the various bodies themselves, but all the elements of the system (including ether or atmosphere) are highly electrified, hence, under the right conditions, polarized. That Earth is polarized we know, otherwise, whence the north and south poles, attraction of compass, etc.

Seeing that both Earth and its atmosphere are electrified and therefore more or less polarized according to valency and current voltage, every change



of angle or voltage of impingements from the Sun must of necessity produce changes, not only in the atmosphere, causing storminess in proportion, but also within the Earth, producing changes of potential points according to the **angle** of the impingements, valency of different strata, relative position to Earth's magnetic poles, etc., etc.

These potential points are constantly changing, owing to the movements of Earth with relation to the Sun, Moon and other planets. When the point of greatest electric potential is, for instance, near the surface, or far north or south within the Earth's body, and a sudden change of angle or voltage calls for readjustments of potential points, great electrical activity results within the Earth, currents rush hither and thither to accomplish this, clashes and short circuits are inevitable, owing to differing thicknesses of strata, differing valencies of same, etc., hence overcharge at points, resulting in internal explosions and consequent convulsions. When near volcanic ranges, these become active, but finding no other outlet, quakes within the Earth are inevitable.

WEATHER FORECASTS FOR SEPTEMBER, 1921.

The First Storm Period falls on the first three days of the month.

ASTRONOMICAL CONFIGURATIONS. Moon is at perigee and New on the 1st and crosses the equator the 2nd; Moon and Mercury are in conjunction the 2nd; Moon is in conjunction with both Jupiter and Saturn the 3rd; Both a Mercury influence and the Autumnal equinoctial influence are in full force.

Any fine weather conditions that may have been on at the end of August will break down in the west by the 1st of this month, and storm areas of considerable extent and intensity will start eastward, developing storms of more than normal intensity. These may not be severe nor dangerous in most parts, but there will be considerable of bluster, dense cloudiness, drizzling rains and lightning phenomena. Storms will not generally remain long in a place, but will get in their work while there. Some dangerous developments are almost certain, and dwellers on the great lakes may begin to see evidences of heavy

After The Storm.—Photo by Elsie M. Rushfelt, Hawley, Minn.

seas and possible hurricane phenomena. It is a little early for this latter, but such have been known under similar conditions before. Frost will be quite possible in northern sections as these storms pass eastward. We know that it is early to talk of frost, normally speaking, but conditions are somewhat abnormal at this time. At least, clearing, cooler days will follow stormy ones.

The Second Storm Period, regular, runs through the 5th to the 9th inclusive.

ASTRONOMICAL CONFIGURATIONS. Moon is just south of the equator as we enter this storm period; Mercury will be in conjunction with both Jupiter and Saturn the 6th; a Vulcan center falls on the 6th also, and a Mercury center on the 7th; the forces of the equinoctial are growing stronger daily; Moon is at First Quarter the 8th and at south declination the 9th.

WEATHER FORECASTS FOR SEPTEMBER, 1921.

The van-guard of the storm areas of this period will not be far behind the rear of storms receding eastward. We believe there will be tendency to more dense cloudiness and drizzling rains for this period, as it is nearer the center of Mercury's influence, whose leading characteristics are drizzles in summer and sleet in winter. Moon's approach to south declination the last part of this period will also tend to these characteristics of weather. The greatest storminess of the equinoctial, or "line storm" sometimes appears two or even three weeks before the actual equinox of the 21st, and it is quite probable that part of this period's storminess may be attributable to this influence. If the fuller force of the equinoctial strikes at this time, there will be dangerous gales on the Lakes and Gulf, with high shifting winds inland, with cool, beating rains. Clearing weather should normally appear about the 10th and 11th.

Scattered In The Streets.—Photo by Jacob Gerber, Berne, Ind.

The Third Storm Period, reactionary, falls on the 12th, 13th and 14th.

ASTRONOMICAL CONFIGURATIONS. Moon is at apogee the 13th; Venus is at ascending node the 10th; Mercury is at descending node the 13th; Venus and Neptune are in conjunction the 13th; Saturn and Jupiter are in conjunction the 14th.

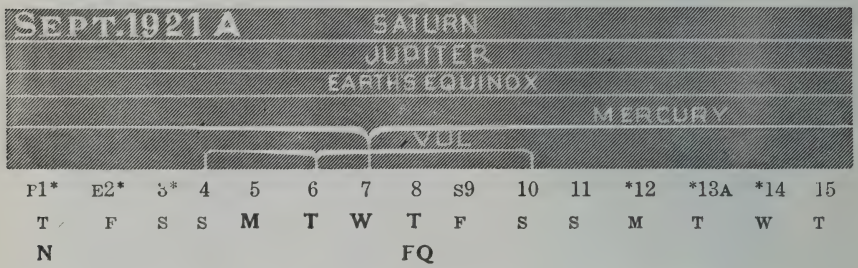
At the distance of a year in advance, we see no reason why normal autumnal weather may not be in evidence for this time. Of course there will be storms as low areas pass eastward, there will be cloudiness and no doubt some rains, but we believe that this period will pass without anything unusual for autumn season. Lake and Gulf gales sometimes break loose near this season almost without warning or pre-indications, and have even fooled the government weather Bureau with all its vast and expensive equipment, but we see nothing like this from this distance (June 2, 1920). Storms of this period may be prolonged by the earthquake center of the 16th and 17th.

WEATHER FORECASTS FOR SEPTEMBER, 1921.

The Third Storm Period, regular, runs from the 17th to the 21st inclusive.

ASTRONOMICAL CONFIGURATIONS. Moon is on the equator and Full on the 17th; Moon is in conjunction with Uranus the 15th; Saturn and Sun are in conjunction the 21st and Jupiter ditto the 22nd; a Vulcan center is on the 18th; The Autumnal Equinox is on the 21st.

There are good indications for some "bad" weather for this period, unless the real equinoctial storm has passed with the preceding period. It is impossible to state the exact days when this will strike, but we believe that this period will experience at least a part of the equinoctial disturbances. We do not mean simply that storms will be intensified, for all storms of this month will feel the strain to some extent, but more than normal storminess will be due according to year-ahead indications. Dense cloudiness will appear in the extreme west, but sections farther east should escape this. Fitful, shifting winds will pass across the country, with some rainfall, and possibly hail. We say this, although Venus is not in the ring and she is the hail queen. Rains of the drizzling kind are likely, and leaden skies will be more in



evidence for three or four days than blue sky. This is not a mere platitude—more cloudiness than sunshine is often the rule for several days at a time, but not the dead, leaden sky of the equinoctial season. Take notice of the characteristics of storms of the equinoctial seasons and see if they are not different from those of any other time of year, even the clouds being characteristic. At this point we experience different electro-magnetic conditions from any other time—hence different clouds, rains, winds, etc. The northern tier of states will hardly get by without frost, whether any has appeared before this month or not.

The Fourth Storm Period, reactionary, runs through the 23rd and 26th inclusive.

ASTRONOMICAL CONFIGURATIONS. Autumn begins, technically, the first day of this period; Moon is at north declination the 24th; Moon at Last Quarter the 24th; Mercury is at aphelion the 23rd; Neptune and Moon are in conjunction the 27th.

This period should be ushered in by a day or two of warmer weather, and well defined storm areas should pass with regularity across the country east-

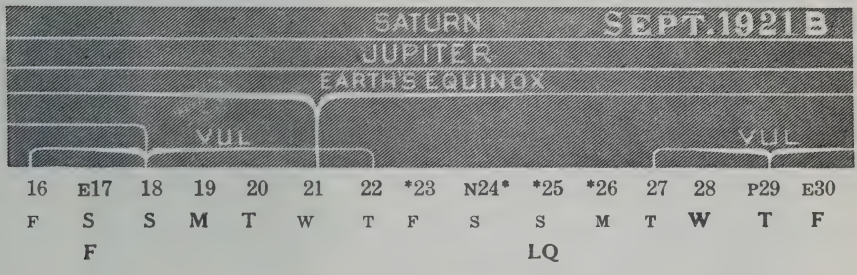
WEATHER FORECASTS FOR SEPTEMBER, 1921.

ward. Rains with more or less bluster and shifting winds will accompany storm areas. Hurricanes on Lakes and Gulf are possible this month, although October is more nearly in line for them this year. Still some may put in an appearance, say near the 1st, 17th and 30th. Indications for earthquakes are very strong for these three dates, and if the electric potentials focus in the atmosphere, rather than within the Earth's body, such storms are almost inevitable. Cool, clearing weather should set in behind the storm areas.

The Fifth Storm Period is due the last three days of this month and the first two days of October.

ASTRONOMICAL CONFIGURATIONS. A Vulcan center is on the 29th; Moon is at perigee on that date; Moon crosses the equator the 30th; Moon and Venus are in conjunction the 29th; Moon and Mars are in conjunction also the 29th; Moon and Saturn are in conjunction the 30th.

There will probably be little respite between the last storm period and this one. A day or two of cooler weather will soon give way to rising temperature, falling barometer and increasing cloudiness with some rains and blustering weather. Autumn winds are likely to become gales in some parts, especi-



ally on the great Lakes and the Gulf regions. Clearing weather will be on in western parts as September goes out.

The First Earthquake Center falls about the 1st or 2nd, probably within 48 hours of the 1st. Disturbances near the equator, or at least within the torrid zone.

The Second Quake Season strikes within 48 hours of the 17th, also with disturbances in equatorial regions.

The Third Earthquake Center falls about the 30th, with general conditions similar to those of the other two periods.

Reactionary Tremors may be felt in quake zones near the 8th and 24th.

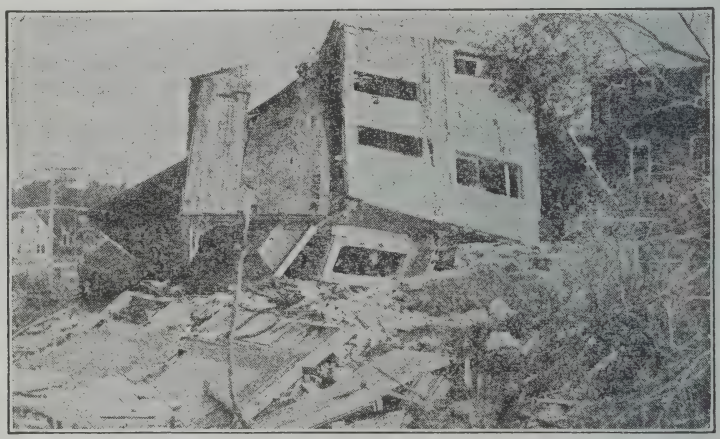
Notwithstanding the scoffing of scientists, and the pooh-poohing of others, the moon has held a place in the opinions of some sensible men as a weather factor to be reckoned with in any reliable weather predictions. Hence the great pains taken by Prof. Hicks to prepare the fine diagrams of moon movements and the frequent mention of moon's movements and relations to earth in his forecasts of weather.

WEATHER FORECASTS FOR OCTOBER, 1921.

The Last Half of a regular storm period occupies the first two days of October.

ASTRONOMICAL CONFIGURATIONS. Moon was at perigee the 29th of September; Moon crossed the equator the 30th; Sun is in total eclipse the 1st of October, invisible in the U. S.; the equinoctial influence is still in force but waning; Moon is New the 1st.

Storms of this period will be on their way eastward as we enter October, and will probably have reached central parts. As we see it at this distance, the times for severe storminess even to hurricane developments, as well as tornadic and lake-gales, is during this storm period and near the middle days of October. If no such storms have as yet appeared it is well to watch these dates we name. Nature will get into a fury in some phase, and if earth does not get shaken up, her atmosphere will be shaken into a maelstrom near these dates.



Tornado Wreckage at Fergus Falls, Minn.—L. C. Stark, Chicago, Ill.

Moon nearest the earth, new on the equator and Sun in total eclipse within three days is a combination not to be sneered at. All will hope that we may get by without anything serious, but we are frank in saying that the indications are unusually strong against it. Settled Autumn weather may appear in some sections, but we believe that October will experience more of the other kind of weather, in the aggregate. Every wheel in the weather mill is grinding, except Mars, whose influence is more of a stabilizer than an intensifier, hence we need not look for his influence.

The Second Storm Period runs through the 5th, 6th and 7th.

ASTRONOMICAL CONFIGURATIONS. Conjunctions of Moon and Mercury and Mars and Venus on the 3rd; influence following the Sun's eclipse of the 1st; the beginning of a Venus influence about the 6th.

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What we have said about conditions for this time still apply but in a less degree for this particular period. We are nearly midway between an eclipse of the Sun total, and a partial eclipse of the Moon. Either of these, if nearer by a few days would call for severe weather at this time of the year, but the two can do their work when one is on each side of us. It sometimes happens that some such combination reacts, one set of conditions upon the other, and settled weather results, but this is not common. It is better to be warned of and prepare for bad weather, and if we get better weather, all right. It need hardly be said that frosts are to be reasonably expected following storms of these periods. Moon's First Quarter on the 8th may tend to prolong storm conditions up to and including that date.

The Third Storm Period, regular, runs through the 10th and 14th inclusive.

Home of Ed. McCoy, Appleton, Mo.—Photo by J. E. Grosshart.

ASTRONOMICAL CONFIGURATIONS. Moon's First Quarter was on the 8th; Moon is at apogee the 11th; Moon crosses the equator the 14th; Moon and Uranus are in conjunction the 12th; Venus is at perihelion the 13th; Mercury is at greatest enlongation east the 17th; a Vulcan center falls on the 11th; Moon at greatest heliocentric latitude south the 13th.

As suggested for the first and second storm periods, there are good chances for something unusual for the last three days at least of this storm period. The influence of Earth's equinox will have nearly disappeared by this time, but there are still a number of storm causes that will be heard from. The last days of this period are within the influence of an earthquake period which looks portentous of danger from this distance of over a year ahead. Moon crosses the equator the 14th, is Full and in partial eclipse the 16th. Either the Earth's solid body or the atmosphere around it will get a thrill that will mean either quakes or severe storms. Mariners on the Lakes and Gulf and dwellers on the

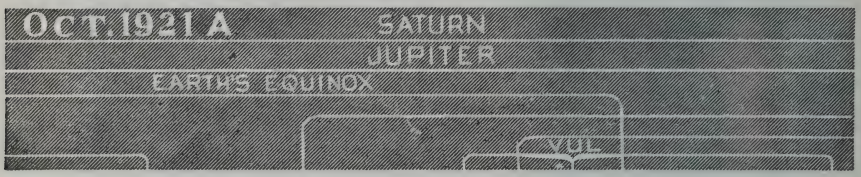
WEATHER FORECASTS FOR OCTOBER, 1921.

shores of either will do well to watch weather indications, and keep an eye on their barometer. If they have no barometer, their best investment would be for one.

The Fourth Storm Period runs through the 17th, 18th and 19th.

ASTRONOMICAL CONFIGURATIONS. There are almost none for this period, that is, that are within the period except Full Moon on the 17th; Moon in partial eclipse, however, is only one day off; we are under the full influence of a Mercury center within 48 hours of the end of this period.

Whether any eclipse is visible or not makes no difference so far as our weather is concerned, for the influence would be the same for either side of the earth. This eclipse is visible, however, and if the central storm areas and disturbances are over this continent at the time of the eclipse, they will most likely be more marked and intense than though the eclipse were over Europe, for obvious reasons. Moon being farthest from the Earth would modify differences, for the focus of Moon's influence will reach a potential on the side of Earth nearest the Moon. If she were at perigee, the focus would reach through the Earth to the other side. Rains, if any fall, will be cool and of the drizzly



kind. There will be electrical unrest, wire systems will feel the strained conditions, and thunder and lightning will be in evidence in various sections. A cool day or two will follow up storm areas of this period.

The Fifth Storm Period, regular, runs from the 21st to the 26th inclusive.

ASTRONOMICAL CONFIGURATIONS. Mercury is stationary the 19th; Venus and Saturn are in conjunction the 22nd; Moon and Neptune are in conjunction the 25th; Jupiter and Venus are in conjunction the 25th; a Mercury center with Moon at north declination fall on the 21st; Moon is at Last Quarter the 24th; Moon is at perigee the 26th; and on the equator the 27th; a Venus center falls on the 27th.

Readers will notice that this period is laid out for six days, a very unusual thing, but we believe that conditions will be such as to produce storminess or at least unsettled weather for most if not all the six days. The period occupies all the central days between two dangerous earthquake centers. It also occupies the distance from a Mercury center to a Venus center. Hence anyone who expects sunny, fine weather for most of the six days is likely to be disappointed. We do not claim it will rain or blow all these days, but that most of them will

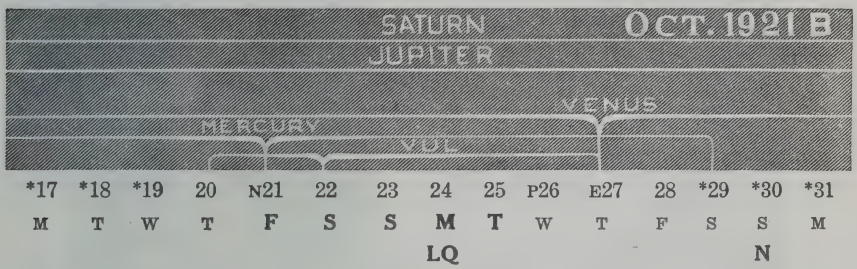
WEATHER FORECASTS FOR OCTOBER, 1921.

be unpleasant, rainy or windy weather. Watch and see if we are not right.

The Sixth Storm Period, reactionary, runs through the last three days of October.

ASTRONOMICAL CONFIGURATIONS. A Venus disturbance is central on the 27th; Moon and Mars are in conjunction the 27th; Moon is in conjunction with Saturn, Jupiter and Venus the 28th; Moon is in conjunction with Mercury the 30th; Mercury and Sun are at inferior conjunction the 31st; New Moon falls on the 30th.

As seen from a year ahead, there seems to be little prospect for much respite from unsettled weather from the 21st to the end of October. There will be some breaks from real storminess, no doubt, but we mean no real settled fine weather. All the weather wheels but Mars are still grinding. Two are near their equinoctial centers. Three strong earthquake crises fall in October. We are frank in saying that we do not expect October to get by without hurricane developments in and near the Gulf, and heavy gales in the Lake region. The most promising days for such are the first three, the middle four and the last six days of the month. Severe storms will not appear on all the



days we name, but we believe that most (if any) dangerous disturbances will fall on the days we name for the month.

The First Earthquake crisis covers the first four days in October. Seismic and volcanic disturbances are quite certain within 48 hours of the 1st.

The Second Earthquake Period covers the 14th to and including the 17th. The crisis falls within 48 hours of the 16th.

The Third Period covers six days, the 24th to the 30th, inclusive. The crisis days are the 26th and 30th or days touching these.

We predicted for January, 1020, three quakes, one within sixty hours of midnight between the 4th and 5th, and within 12 hours of the midnight date named, Mexico suffered terribly from quakes, whole villages being wrecked or wiped off the map. Another date was the 12th or days touching. On the 12th and 13th another wide territory in Mexico was wrecked by quakes. Another was for the 21st and on the 22nd the Pacific coast was shaken up. If there were any other quakes at all for that month, the newspapers never mentioned them. Call such things co-incidences, any way you wish, but the facts remain that we did predict quakes for those days and the quakes were on time, the only quakes for weeks before or after the hours we named.

WEATHER FORECASTS FOR NOVEMBER, 1921.

Any child should be able to notice the difference between the storm chart for October and this one for November. The absence of planetary braces must not be taken entirely on appearances, however. November will no doubt give more normal Autumn weather, with here and there storminess, but in only two cases are dangerous disturbances indicated. The conditions of the last week of October will have subsided no doubt, leaving a day or two of more settled weather at the beginning of November.

The First Storm Period runs from the 2nd to the 6th.

ASTRONOMICAL CONFIGURATIONS. Moon is at south declination the 3rd; a Vulcan center also falls on the 3rd; Mercury is at ascending node the 1st; Mars is at aphelion the 3rd; Venus is at greatest heliocentric latitude north the 4th; Neptune is at quadrature the 8th.

Temperatures will rise and barometer readings will fall in the west by

After The Tornado at Fergus Falls, Minn.—L. C. Stark, Chicago, Ill.

the 2nd, and general storm conditions will pass eastward but probably without severe developments. Although we are passing through the Autumnal electrical belt, (the opposite of May) this of itself would not generally precipitate real storminess unless aided by other storm causes. More thunderstorms are to be expected, but tornadic conditions are not marked, and winds are likely to be more usually straight blows. Cooler, clearing weather will prevail as this period passes into the Atlantic coast regions.

The Second Storm Period is reactionary, and runs through the 8th, 9th, 10th and 11th.

ASTRONOMICAL CONFIGURATIONS. Moon was at apogee and First Quarter the 7th; Moon crosses the equator the 10th; Neptune is at quadrature and Mercury is stationary both on the 8th; Moon and Uranus are in conjunction the 9th; this storm period is at the center of a reactionary seismic period.

Indications at long range point to stronger storm probabilities for this

WEATHER FORECASTS FOR NOVEMBER, 1921.

period than for the one just past. Severe electrical disturbances are likely at this time, and rains will be accompanied by lightning in many parts. Winds and hail are also among the things likely to appear in some sections during this period. The presence of Venus at the time of passage of the electrical belt usually means intenser storm conditions generally, together with the things peculiar to the Venus influences. Sleet and flurries of snow need not surprise near the end of the period. Look for cooler clearing weather following storm areas.

The Third Storm Period, regular, runs from the 13th to the 17th inclusive.

ASTRONOMICAL CONFIGURATIONS. A Vulcan center falls on the 14th; Moon is Full on the 15th; Mars and Saturn are in conjunction the 13th; Uranus is stationary the 15th; Mercury is at greatest elongation west the 16th; the Venus influence is mostly past for this time.

A Home After the Tornado at Fergus Falls ,Minn.—L. C. Stark, Chicago, Ill.

There is promise of considerable storminess for this time in some sections of the country—more than for any other part of the month unless it be the last week of November. Moon at north declination calls for higher temperatures and greater humidity than though Moon were south. An earthquake center falls at the center of this storm period with prospects of tremors at least north of the equator. If this fails, there will be windy weather, and rains with lightning and thunder, and electrical unrest that will be felt upon wire systems and electrical machinery. The greatest disturbances will appear in the night because Moon is nearing perigee as this storm period closes. Auroras and halos will be natural during this period. Cool, clearing weather will follow up the storm areas to eastern parts about the 17th.

The Fourth Storm period, reactionary, runs through the 20th, 21st, 22nd and 23rd.

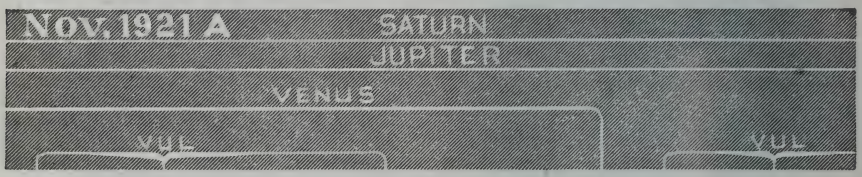
WEATHER FORECASTS FOR NOVEMBER, 1921.

ASTRONOMICAL CONFIGURATIONS. Moon is at perigee the 21st; Moon is at Last Quarter the 22nd; Moon crosses the equator the 24th; Neptune is stationary the 18th; Moon and Neptune are in conjunction the 21st.

Advance indications for this time are for normal Autumn weather. Some storm areas will pass eastward across the country, but rains will be normal if they appear, which they will do in sections merely, rather than generally for the country. Should earth shakes or tremors develop, a thing quite probable, weather conditions will tend to hazy, fair skies, sunshine predominating. If earthquakes or volcanic conditions appear, they will be opposite the Moon at whatever hours they appear. Rains in eastern parts may develop some sleet during the last two days of the period. Cold, disagreeable winds will most likely follow storm areas eastward.

The Fifth Storm Period, regular, runs from the 25th to the end of the month.

ASTRONOMICAL CONFIGURATIONS. A Mercury period begins on the 24th; a Vulcan center is on the 26th; New Moon the 29th; Moon at south declination the 30th; conjunctions are, Jupiter and Moon the 25th; Mars and



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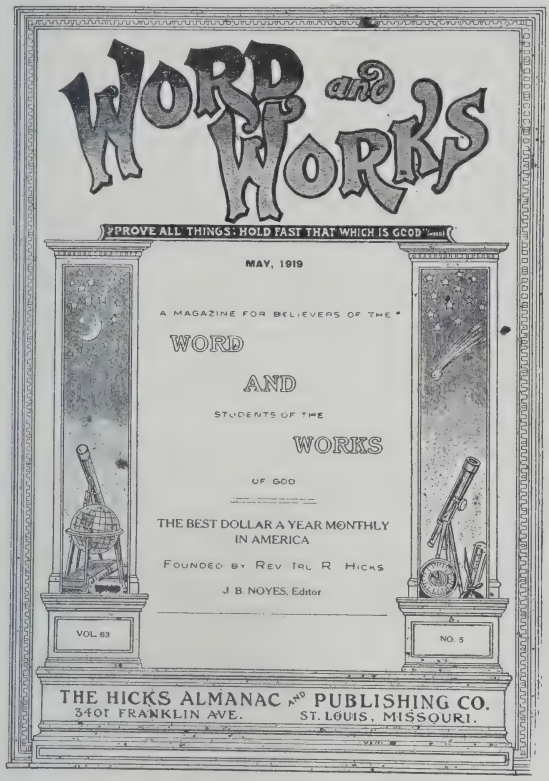
Jupiter the 26th; Venus and Moon the 27th; Mercury and Moon the 28th; Uranus will be at quadrature the 28th.

A taste of real wintery conditions is promised for this last week in November, at least in northern states. Earthquakes and volcanic disturbances may modify this to some extent; but storms will assume a wintery aspect and character. In fact, it need not be a surprise if November goes out in the midst of a blizzard, whether much or little snow falls. Corn should be housed, potatoes dug and put safely away and apples gathered from the orchard before this time. We sometimes experience seasons when these things might be out until this time of the year, but such will not likely be the case this year. Earthquake and volcanic phenomena are almost certain within 48 hours of the 28th and 29th. This may modify weather conditions to some extent, but considerable storminess is likely as this period passes eastward. Live stock out in the woods or fields will ssuffer if not taken care of. Nineteen storm producing configurations occur during the last fifteen days of November—almost an average of one and one-half each day. Don't be caught napping as winter closes in. We believe that the last two or three days of November will be disagreeable in most sections.



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WEATHER FORECASTS FOR NOVEMBER, 1921.

A Reactionary Earthquake Period centers about the 9th or 10th. Phenomena most likely in equatorial regions.

An Earthquake Center is on the 15th, and days touching that date. The electro-magnetic strain will be increasing from the 10th forward to the end of the month. Phenomena, as noted are likely about the 9th or 10th, the 15th, with a reactionary seismic probability for about the 21st or 22nd.

Prospects are good for something real in seismic phenomena for the last two or three days of November. Moon is New at south declination the 29th and 30th respectively. This calls for cold, probably stormy weather in connection with the quadrature of Uranus the 28th. Watch and see.

Now, surely, if earth, or moon, or both, are electrified bodies, whose particles and forces are polarized by solar impingements upon their magnetic fields, such movements of moon and earth as we have noted cannot but disturb the polarization of both bodies, and also of whatever atmospheres each may have. Any change of atmospheric conditions means a corresponding change of weather conditions. All changes of barometric pressure, so-called, are due to these changes of polarization of the particles of the atmosphere, for although seem-

16	N17	18	19	*20	*21P	*22	23E	24	25	26	27	28	29S	30
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ingly so transparent and unseeable to us, atmosphere is just as truly real matter in a more or less dense form, as any other thing we know of. The largest part of any growing vegetable matter, comes from this same air, atmosphere. Cremate a sheaf of wheat, the little pile of ashes represents what the wheat got from the ground, the rest was merely what we sometimes call gas, really air at a certain degree of polarization. Everything we see is similar in character, even that by which we are enabled to see,—light itself. The theory that light is a direct emanation from the sun is an error. **Light is local to the environs of the several bodies of the system,** appearing only where the sun's impingements come into contact with cosmic conditions conducive to their polarization. Heat is the same in character as light, being a different degree of polarization of the sun's impingements. So far as demonstrated, all space is dark and cold. If we go up in a balloon, we experience cold in proportion to our distance from earth environment. Balloonists have been up to where two could scarcely see each other in the same basket, although the sun was in plain sight out in unobstructed space. They could see the sun, but its light about them was almost nil.

WEATHER FORECASTS FOR DECEMBER, 1921.

The First Storm Period for December occupies the first three days of the month.

ASTRONOMICAL CONFIGURATIONS. A Mercury center falls on the 4th; Moon is at apogee the 5th; Moon and Uranus are in conjunction the 6th.

Temperatures will rise and barometer readings fall in the west by the last of November or first of December, with storm areas starting on their way eastward. This period does not promise severe storm conditions, rather storminess of the "nasty" kind, such as dense cloudiness, cold drizzly rains, sleet or wet snow, etc. Indications are that winter conditions will have set in by the 20th of this month, if not early in the month. We speak in a general way for the country as an average. Indeed we believe that much of the northern part of the country will get a taste of winter conditions during the middle part of November, although there may be a toning down between that time and the

"I Know It's The Real Stuff—Shovelled It Myself."—C. E. McEwen, Rochwell, Ia.

present. Heavy sleet in some sections need not surprise students of these storm charts. Snowfall may not be heavy by this time, but there will be blizzardous conditions with snow flurries for many parts during this period and the one before or following it. Cold weather will likely wind up this period, although a reactionary seismic strain may modify the cold to some extent.

The Second Storm Period, regular, runs from the 6th through to the 9th and possibly the 10th also.

ASTRONOMICAL CONFIGURATIONS. Moon is farthest from the Earth on the 5th; Moon is at First Quarter the 7th; Moon crosses the equator the 8th; a Vulcan center falls on the 7th; Uranus and Moon are in conjunction the 6th; a Mercury center falls on the 4th; the winter solstice will be felt in storms of the few weeks touching this period, running over into 1922.

It is indicated that the respite between the last storm period and this may be of short duration. The cooler weather following storm areas of the last

WEATHER FORECASTS FOR DECEMBER, 1921.

period will break down in the west early in this period, and characteristic winter storm areas start eastward. Dense cloudiness will cover large areas of country, and cold drizzling rains or wet snows will fall in many parts. Sleet is one of the almost certain developments of the period for some parts of the country. Raw, shifting winds will make it disagreeable for live stock, as storms drive in from unexpected quarters. The shortest day of the year is only a few days away, and the influence of the solstice season will be felt. Two regular and one reactionary seismic centers fall within the month as noted later on. Watch out for the comfort of live stock during these seasons. Do not forget that we are nearing the Saturn equinox and that the strain has been growing for two years past, and that great seismic unrest is almost certain for the first few months of 1922. Look for a share of it during the storm periods of December.

The Third Storm Period, reactionary, runs through the 13th, 14th, 15th and 16th.

ASTRONOMICAL CONFIGURATIONS. These are not numerous, but are potent as storm causes; the Mercury forces are still with us; Moon is Full the 14th; Moon is at north declination the 15th; Moon is nearest the Earth the 17th; the winter solstice is only one week away.

Storms of this time will probably not be as marked and severe as those of the period just past. In general characteristics they will be much the same, however. Less dense cloudiness and possibly less snowfall or rain may be experienced, but winter conditions will continue. If seismic phenomena are severe, we may look for some abatement of atmospheric disturbances, snow or rainstorms, blizzardous winds, etc. The fact that Moon is Full on the 14th and

WEATHER FORECASTS FOR DECEMBER, 1921.

at perigee on the 16th, predicts volcanic and earthquake disturbance, while the presence of a Mercury brace and the approach to the winter solstice season call for general storminess. Which will predominate, no one can tell beforehand. We expect, however, considerable storminess for the first half of December, winding up with cold winds drifting of whatever snow may have fallen. Cold rains, ending with sleet are quite probable in some parts. Keep live stock protected from north or northwest winds at the close of the period.

The Fourth Storm Period, regular, runs from the 18th to the 22nd, inclusive.

ASTRONOMICAL CONFIGURATIONS. Moon it at perigee the 17th; Moon crosses the equator the 21st; Mercury is at perihelion the 20th; Sun enters Capricornus the 21st and winter begins; Moon is in conjunction with Jupiter and Saturn both on the 22nd; and with Mars the 23rd.

About the 18th, temperatures will rise and barometer readings fall in the west. Areas of cloudiness with rains or snow will pass eastward across the country. Winds will be shifty, rushing in from unexpected directions. Where storms develop, they will be of the disagreeable sort. Considerable snow will

*1	*2	*3	4	A5	6	7	E8	9	10	11	12	*13	*14	*15N	16
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likely fill as the storm areas across the country, to be piled up by northwest winds. Chances seem good for a white Christmas over much of the United States where snow usually falls, but at New Moon sleighing parties will not be as popular as when Moon is Full. This period ends with Moon midway between the equator and south declination, hence cold may not be very intense, but will be enough so to satisfy most people.

The Fifth Storm Period, reactionary, runs through the 25th, 26th, 27th and 28th.

ASTRONOMICAL CONFIGURATIONS. Mercury and Sun are at superior conjunction the 27th; Moon and Venus in conjunction the 28th; Moon and Mercury in conjunction the 29th; Saturn and Sun at quadrature the 29th; Venus at descending node the 30th.

New Moon at south declination the 28th calls for cold weather during this period. Temperatures may tone down some ahead of storm areas, but winds will be of the raw, chilly kind in most sections as areas pass eastward. Earthquake periods are well defined for December, hence, if earthquakes do not develop and let themselves be felt, temperatures may not run as low as they

WEATHER FORECASTS FOR DECEMBER, 1921.

would otherwise do. Indications are that the year will go out with cool or cold weather holding generally over the country. December bids fair to develop considerable electrical unrest, with trouble for wire systems and electrical appliances generally. Auroras and halos will be natural. This is written June 24th, 1920, and up to this time the forecasts for 1920 have averaged 90 per cent correct. Let all watch and see if we have done any better or worse for 1921.

An Earthquake Center falls near midnight of the 7th and 8th. The crisis of this disturbance will be heard from within 48 hours of the 7th or 8th, probably in equatorial regions. As this is a reactionary center, tremors or quakes may not be severe.

An Earthquake Period runs through the 13th and 17th, inclusive. Disturbances are indicated for north of equatorial regions at this time.

T' e Last Five Days of the month are likely to develop seismic phenomena, probably south of the equator, the central days being the 28th and 29th. It is difficult to foretell earthquake phenomena to the very day, but usually they will appear within 48 to 60 hours of the centers named. Nine out of ten have done so for 1920, into June.

P17	18	19	20	E21	22	23	24	*25	26	*27	S28*	29	30	31
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To claim that the moon has no influence in weather matters is only to beg the question. **Something** produces weather changes that are **synchronous with moon's positions and movements,** certain changes appearing synchronously with certain moon changes or movements. As no other cosmical phenomena have been discovered to account for these weather changes, very naturally the moon has been blamed for them, and it is logical to hold the moon responsible until an alibi can be proven. Our most severe storms and almost all earthquakes are synchronous with the passage of the moon over earth's equator or with moon at new or full. Very rarely is there an earthquake when moon is at north or south declination, unless new or full, that is, in conjunction or at opposition with earth and Sun. Surely it is logical to put one and one together to make two, and suppose that moon has something to do with these phenomena, or admit that they are only hap-hazard and undeterminable, merely intermittent and not referable to any particular cause. We prefer the really logical method, knowing that we can predict certain weather phenomena when moon is in a certain phase or position.

CONDENSED WEATHER FORECASTS FOR 1921.

JANUARY.

First Storm Period, reactionary, runs through the 2nd, 3rd and 4th. Normal winter weather for this period, cold wave following low areas eastward.

Second Storm Period, regular, 7th to 10th, inclusive. General winter weather with some precipitation and blizzardous storms here and there—probably nothing very abnormal.

Third Storm Period, reactionary, runs through the 13th, 14th and 15th. Generally cool to cold weather for most of the country, with probably no abnormal storms. Some rain or snow in sections with cold northwest winds following storm areas.

Fourth Storm Period, regular, runs through the 18th to the 21st, inclusive. Normal winter weather generally, with some storms here and there, with sleet possible east of the Mississippi Valley.

Fifth Storm Period, reactionary, runs through the 24th, 25th and 26th, with possibilities for the 23rd and 27th. Considerable stormy weather indicated for this period. Cold rains southward, wet snow and sleet northward. If barometer runs low, look for a "January Thaw" in many parts of the country.

A Sixth Storm Period runs from the last two days of this month over into February.

Earthquakes are likely from the 7th to the 10th, the real crisis touching the 9th also the 23rd and 24th.

FEBRUARY.

First Storm Period runs from January 30 to February 3rd. More than normal cloudiness, large areas to get "Mercury" characteristics, that is, cold rains, with snow or sleet in some sections. Cold snappy weather at close of period.

Second Storm Period, reactionary, 6th to 8th, inclusive. Probably early developments in the west, but not much severe weather for the period. Colder winds closing period.

Third Storm Period, regular, runs through the 10th to 14th, inclusive. First storms of the "equinoctial" kind for the season. Cold wave to follow low areas.

Fourth Storm Period, reactionary, runs through the 16th to 18th, inclusive. Weather conditions probably normal, some storminess with rain or light snowfall. Probably no abnormal changes of temperature.

Earthquakes are most likely near the 7th and 9th. An earthquake centers from the 19th through the 23rd. Crisis within 48 hours of midnight of the 22nd and 23rd.

MARCH.

First Storm Period, first three days of March. Nothing abnormal in sight, spring weather probable. Possibly some rain or snow, considerable cloudiness likely.

Second Storm Period, regular, from 5th to 9th, inclusive. Proximity of Vernal Equinox may cause some severe storms for this period. Either storminess or seismic disturbances almost certain for central parts of country. Watch barometers.

Third Storm Period, 11th to 13th, inclusive. Some hard storms probable, but nothing serious, unless seismic phenomena fail. Look for rains, thunder, shifting winds, etc.

Fourth Storm Period from the 17th through the 21st. Indications for much storminess for this period, with tornadic developments quite probable. Earthquakes are almost certain to be heard from. Rain, hail, sleet and snow squalls are to be expected for different parts of the country.

Fifth Storm Period runs through the 23rd and 26th, inclusive. Look for decided storminess in most parts of the country. Something worth notice is quite likely in the way of severe storms.

The Last Storm Period runs from the 28th into April. Normal spring weather seems likely for most of this period. Some sections may get harder storms than normal, and dense cloudiness in some parts.

Earthquakes are almost certain within 48 hours of the 9th, also the same for the 16th. The same may be said for the 22nd but seismic strain will be great from the 19th to the 24th.

APRIL.

First Storm Period, reactionary, 3rd to 6th, inclusive. Storm developments probably late in the period. Equinoctial influence waning—some rain with thunder and lightning in some parts. Tornadoes likely if barometer marks low readings. Cool wave.

Second Storm Period, regular, 9th to 12th, inclusive. Some heavy rains and some violent phenomena for this period. Probable appearance of "April showers". Barometric readings should be watched at these storm periods of March and April.

Third Storm Period, reactionary, 16th through the 18th. Considerable stormy weather with earthquakes possible. Should seismic phenomena fail, severe storms are almost certain. Watch barometers and weather developments.

Fourth Storm Period, regular, 20th through 24th. A practical continuation of phenomena of last period, with indications for more storminess and intenser storms. Make every possible preparation for dangerous storms for the latter part of April, if not for all periods of the month.

Fifth Storm Period, reactionary, 26th, 27th and 28th. Dense cloudiness and cool rains probable. Sleet may appear in northern sections. Cool wave following.

Earthquakes are due about the 7th—8th, the 15th—16th, and 21st—22nd.

MAY.

First Storm Period, first three days of the month. Considerable storminess for this period. Beginning of "solstice" period. Shiftly winds, erratic storm phenomena, weather warm.

Second Storm Period, 5th through the 8th. Seismic phenomena almost certain during this period. Much electrical unrest with frost possible following. Black ugly looking clouds likely. Watch your barometer through this month.

Third Storm Period, 11th to 14th, inclusive. Thunderstorms for some parts with seismic phenomena probable during period. Hail in some sections. Watch barometers—tornadic storms are likely. Strong winds probable.

Fourth Storm Period, reactionary, regular, 17th to 21st, inclusive. A diversity of storm phenomena for this time, with some very violent developments. Sudden downpours of rain with bluster. This period may extend a day or two beyond dates named.

Fifth Storm Period, reactionary, 24th to 27th, inclusive. Normal June weather probable for this time. Some storminess, but not general. Rainfall about normal.

Earthquakes are probable near the 6th and 12th, probably within 48 hours of these dates. Another seismic point is the 21st and 22nd, also the 26th and 27th or touching these dates.

JUNE.

First Storm Period, first three days of June. Look for unsettled weather at least, possibly storminess coming over from May. Shifty winds and erratic storm phenomena.

Second Storm Period, the 5th through the 8th. Greatly disturbed weather conditions, hailstorms with much electrical unrest. Threatening clouds and bluster.

Third Storm Period, 11th through the 14th. Strong electrical disturbances with thunder storms and probable hail. Tornadic phenomena should be expected for some parts. Crops are likely to suffer from hail in some parts.

Fourth Storm Period, 17th through the 21st. Storms of the blustery, windy, cloudburst kinds will appear at this time. Possible tornadic storms may develop.

Fifth Storm Period, 24th through the 27th. Some storminess for this period, but probably not of the dangerous or destructive kind. About normal rainfall for the solstice season.

Earthquakes are due about the 6th, the 21st—22nd, and the 26th—27th. A reactionary centers about the 12th.

JULY.

First Storm Period for July, 4th to 7th, inclusive. Thunder showers with hail are possible as storm areas pass eastward. General characteristics of June weather will continue through July generally.

Second Storm Period, 10th to 14th, inclusive. Some tornadic storms are likely for June and July. Watch your barometer. Hurricanes or gale storms are among the possibilities of these two months. Hail is probable at this time.

Third Storm Period, 17th to 19th, inclusive. Short respite between last period and this. Electrical unrest and dense cloudiness for many parts. Cooler weather will close storm periods this month.

Fourth Storm Period, 21st to 25th, inclusive. Weather will be practically normal for July during this period. Mars' stabilizing influence will end this month.

Fifth Storm Period, the last four days of the month. Some hot, dry weather for last half of July. Generally normal for the time of season. Storminess probable near the quake periods.

Earthquakes almost certain within 48 hours of midnight between the 4th and 6th. Reactionary quakes or tremors near the 10th and not far from the equator. Also such are probable near the 19th and 24th.

Earthquakes are due about the 5th, 6th, 11th to 16th, and the 19th or 24th.

AUGUST.

First Storm Period from 2nd to 5th, inclusive. Considerable storminess for western parts of country. One or two days of cooler weather ending storm period.

Second Storm Period, 8th and 10th, inclusive. "Hot sultry August" will be in evidence over much of the country. Probably more rain for August this year than generally for last two or three years in most parts.

Third Storm Period, 13th through the 17th. Normal August weather is indicated, with some rains and hot sultry weather. Beginning of Equinoctial characteristics in storms is now due.

Fourth Storm Period, 20th to 22nd, inclusive. No great changes of thermal conditions indicated for this period. Dense cloudiness in some parts with rains of the drizzle kind are quite likely in some sections.

Fifth Storm Period, 25th to 29th. Considerable storminess in eastern sections during the last eight days of August.

First Earthquake Period, crisis within sixty hours of the 4th.

Second Earthquake Period runs from the 16th to the 21st, central near the 19th. Tremors or light quakes are possible near the 10th and 26th.

SEPTEMBER.

First Storm Period, first three days of the month. Considerable storminess is indicated for this time, probably not severe or dangerous, as a rule, but some parts should watch barometer readings.

Second Storm Period, 5th through the 9th. Dense cloudiness with drizzling rains in some sections. Gales on lake region and Gulf are quite possible, provided the equinoctial forces strike now.

Third Storm Period, 12th through the 14th. Cloudiness with rains here and there. Being near an earthquake center barometer should be watched on Gulf and Lakes and their coasts. Storm period, regular, 17th through 21st. Considerable dense cloudiness with drizzling rains, possibly hail in some parts. Bad weather certain in some sections.

Fourth Storm Period, 23rd to 26th, inclusive. Characteristic Autumnal storms, some rains with shifting winds. Wind on lakes or Gulf are possible but not certain as seen a year in advance.

Last Storm Period, last three days of the month.

Earthquakes are likely within 48 hours of the 1st, 17th and 30th. Reactionary tremors likely about the 8th and 24th.

OCTOBER.

First Storm Period, first two days of the month. Indications are for some sreious storms for this time. Possibly nothing dangerous, but we look for severe weather for part of the period.

Second Storm Period, 5th to 7th, inclusive. Conditions not quite so threatening as for last period, but still sufficiently so. Watch for considerable storminess in some parts of the country.

Third Storm Period, 10th to 14th, inclusive. All are warned of severe storms for this period, especially mariners on lakes and Gulf. Keep an eye on the barometers at the approach of storms.

Fourth Storm Period, 17th to 19th, inclusive. Considerable storminess on account of an eclipse of the Moon. Cool, drizzling rains where rain appears. Thunder and lightning for some sections.

Fifth Storm Period, 21st to 26th, inclusive. Settled weather, if any for small sections only for this period. Rainy, windy weather is likely.

Sixth Storm Period, last three days of the month. All the weather wheels are grinding. Much windy, stormy weather for most parts of the country. October will not get by without hurricane and gale storms—take note.

Earthquakes are likely the 1st, 16th, 26th and 30th.

NOVEMBER.

First Storm Period, 2nd to the 6th. Normal Autumn or winter weather is indicated. The latter will be in evidence in some sections northward. Nothing very abnormal appears.

Second Storm Period, 8th through the 11th. Continuation of last period, with some cold rains and possible snow flurries in some parts. Lightning is probable.

Third Storm Period from the 13th to the 17th. Much electrical unrest, and more storminess than heretofore for the month. Some windy weather; halos and auroras are very probable for this time.

Fourth Storm Period, 20th to 22nd. Indications for normal Autumn weather, fair hazy skies generally. Cold disagreeable winds will follow storm areas eastward.

Fifth Storm Period, 25th to end of month.. Winter will probably really develop where it has not thus far before this period passed. One and one-half storm causes are in evidence for **each day** of the last half of November. Be ready for winter conditions now or very soon.

An Earthquake center on the 9th and 10th, about the 15th and about the 21st or 22nd.

DECEMBER.

First Storm Period, the first three days of the month. "Nasty" but not of necessity severe storm conditions. Much of the northern sections will feel real winter by this time. Cold weather to close the period.

Second Storm period, 6th through the 8th. Storm areas will start early. Dense cloudiness, drizzling rains with sleet are likely. Raw, shifting winds, possibly even blizzardous, may wind up the period.

Third Storm Period, 13th through the 16th. Weather generally the same as for last period, but not as intense. Winter conditions are due for much of the northern country. Seismic disturbances are certain. Cold rains with sleet for some sections.

Fourth Storm Period from 18th through the 22nd. Cloudiness with rains or snow, shifty winds and raw winter weather over much of the country.

Fifth Storm Period, 25th to 28th. Practically normal winter weather for this period. Prospects for a "White Christmas".

Earthquakes are indicated for the 7th or 8th, the 13th to 17th and near the end of the month.

ORGIN OF THE MONTH NAMES.

JANUARY.

Taken from the name of the ancient Roman Deity, Janus, called "the porter of heaven." He presided over everything pertaining to beginnings, as of days, years etc. Hence th name of the first month was named after him. The name is merely a different form of Dianus, (who was probably the ancient Sun God) whose name was invoked by the Romans before any undertaking. He presided over their year, month, day and all enterprises. On New Year's day festivities were held, gifts were made and the holiday inclinations followed. A temple to this Deity was erected near the Roman Forum in Rome by Romulus.

FEBRUARY.

From Februare, meaning to purify, or from Februa, the Roman festival of general expiation which was celebrated the latter part of this month. The most celebrated days of this month are Candlemas Day, (Ground Hog Day) the 2nd; St. Valentine's Day, the 14th; Washington's Birthday (in the United States) the 22nd; and the church festival of St. Matthias, the 24th.

MARCH.

From the Roman Martius (Mars) the God of war. The Anglo-Saxons named it the "Hlyd Monath", that is, "loud or stormy month." This was the first month of the French year provious to 1564 but Charles IX decreed January as the first month and March the third but March remained the first month in England until 1752. March is a proverbially wet, stormy month over most of the United States. On the 21st or 22nd the sun crosses the celestial equator north-bound, called the equinox, because then the sun shines on both sides of the equator and day and nights are of equal length.

APRIL.

In the old Roman reckoning the second month but in the Julian (present) calendar the fourth month. From what the name is derived is not known, but tradition ascribes several sources. One is the name of an ancient God Aper or Aprus (possibly the Egyptian Apis—the Bull). Some claim that Noah sent out the dove on April 1st, the dove returning from its errand unsuccessful. Hence the modern habit of sending people on fool's errands April 1st. In Scotland the victum of such jokes was called a "Gowk", (used as Gawk in this country) that is, a fool or foolish person.

MAY.

The ancient third but our fifth month. Thought by some to have been named from Maia, mother of Mercury the "the fleet footed messenger". To this God the Romans sacrificed. In the Roman Catholic church May is known as the month of Mary. In England May-day was the first of May, a day for out-door festivities in honor of the opening of spring. Flower-gathering, May-pole ceremonies, parties etc., were held. The May-pole exercises were sometimes elaborate and the poles were of some durable wood and remained for many years. In some cases Royal families participated in the ceremonies and festivities.

JUNE.

From Juno, an ancient Goddess of Rome, supposed to be the protector of society and the State, hence June is a popular month for weddings and social functions. Juno was the special patron of womanhood, as Jupiter was of Manhood, hence the two were closely connected in Roman Mythology. Meteorologically and astronomically, June is the mid-summer month. The summer solstice is June 21st, when the sun reaches his farthest point north and turns southward for the winter again.

JULY.

From the name of Julius Caeser who was born within the limit of July's 31 days. The Romans called this month Quintilius, (fifth) because it was their fifth month. The Anglo-Saxons called it "Maed-Monao". That is, "Mead-Month" or meadow month, because then the meadows were out in the full glory of their bloom. Our "Dog-days" begin the 2nd of July, Earth reaches the aphelion point of her journey round the sun the 2nd of July, that is, farthest from the sun at one end of her elliptical orbit. From here Earth moves sunward again. In hot July we are millions of miles farther from the sun than in freezing January. Can you explain why it is hot in July and cold in January?

AUGUST.

Named after the Emperor Augustus of Rome. It was formerly called sextilis or sixth because it was the sixth Roman month. As July had been named for Julius the senate deemed it wise to also honor Augustus by naming a month after him. But August had only 30 days, so another day was added making 31 as now, lest Augustus be offended that Julius had a longer month named after him. For such trifling things have important changes been made.

SEPTEMBER.

This was the seventh month of the old Roman calendar and is named from this number, Sptem—seven. It was assigned thirty days, and by the present Julian system became the ninth month. The "Ludi Magna" (Ludi Romani) festivals in honor of Jupiter, Juno and Minerva began the 4th of September. It is similar to March in the fact that the Autumal equinox falls on the 21st or 22nd. That is, the sun crosses the equator on his way southward for the winter season. In September we have the "harvest moon", that is, the moon rises at sunset and lengthens the twilight for several evenings at about the same time for several nights in succession.

OCTOBER.

Named also from its number, Octo—eight of the Roman calendar. It was assigned 31 days and by the Julian arrangement it continued October as our tenth month. The Romans celebrated the 11th, 13th and 15th for certain of their many festivals and religious ceremonies. The principal ecclesiastical feasts for this month are St. Luke on the 18th and St. Simon and St. Jude on the 28th. The Slavs called October the "yellow month" because of the fading leaves. The Anglo-Saxons called it "Winter Fellyth" because at this full moon winter was supposed to begin.

NOVEMBER.

Originally "Novembris" from "Novem", nine, which was its number in the old Roman calender. Under the present plan November became the eleventh month while retaining its former name with 30 days. The eleventh of November was accounted the beginning of winter. With Romans catholic All Saints' Day was on the 1st, All Souls' Day is the 2nd, St. Martin's the 11th, St. Celia's the 22nd, St. Catherine's the 25th and St. Andrews the 30th. All Saint's and St. Andrews are all the feasts retained at the present day, in the English calendar. The eve of St. Andrews is a fast.

DECEMBER.

From "Decem"—ten—the Roman calendar being divided into ten months of which this was the last. Under the Julian plan this was changed to the twelfth, retaining the former name. Etymologically this name is a misfit. Originally it had 30 days, Numa gave it but 29 and Julian added two days giving it 31, its present number. Various ancient festivals occurred this month. The Anglo-Saxons called it "Winter Monath" because of the winter solstice the 21st, also "Holy Monath or Holy Month because Christmas came within it.

INTRODUCTION TO ASTRONOMY.

First, we wish to say that while the following diagrams are not geometrically accurate (which would be impossible on such a scale) and not entirely without small errors, still they are sufficiently accurate for all practical purposes.

In the following twelve astronomy pages, and the twelve Moon pages following the monthly astronomy, we have tried to show beginners, as nearly as it is possible to do so, the relative positions of Sun, Moon and planets for the year. Not only do these lessons make plain a thousand things for the beginner, things which would require search through whole sets of astronomical works and much of which information could be found only in the nautical works published by the government, but the diagrams are useful even for those well advanced in the science. A glance shows the positions of all the bodies in the system. Evening and morning stars can be recognized instantly by reference to the charts. Even a child can learn to see at a glance what bright stars appear in the sky at any time, morning or evening. If parents would take pains to get the children interested, they would be surprised to see how enthusiastic they would soon be in the study. Either set of charts, with the descriptive matter accompanying it, is worth more to any child than any book that could be bought in the market, no matter what the cost.

These charts are useful to beginners for impressing the truth that in astronomy, as in all else we know in the world, things are not always just as they seem. Moon and one of the planets may **seem** to be passing very close to each other, and we generally use terms suggesting that, but in reality they may be as far apart as or even farther apart at that time than at others. The charts show how the fact of moving **into line with each other** is the secret of their seeming proximity t each other. **How** the planets change from morning to evenng stars, **why** and **when** are all interesting points for study. A straight edge laid from Earth through any planet in the chart and extending out to the signs and constellations shows instantly in what constellation or sign the planet appears. The same is true of Earth and Sun. It should be remembered that these charts are computed for about the 15th of each month, and that the necessary allowance must be made for any other part of the month, for the movement of the body in its circuit round the Sun. The arrow heads show the directions of the forward movement of each planet, and Earth revolves on her axis in the direction indicated by the arrow.

The pages of this book contain more information than could be found in a whole course at almost any school that teaches astronomy. We have tried to make everything as plain as possible, avoiding technical terms whenever possble but it is of course necessary for all, especially beginners to put their thinkers at work in order to get most out of their reading.

WONDERS OF THE SOLAR SYSTEM.

The Sun, the great central body of the system, is 866,200 miles in diameter. It turns on its axis like the planets, and is supposed to be somewhat like a great dynamo, furnishing light and heat to all the system by electro-magnetic impingements throughout solar space. All the other bodies of the system circle round this central Sun.

Mercury, the planet nearest the Sun, is about 3,000 miles in diameter. A day on Mercury is about the same as ours, but a year on Mercury is about 88 of our days. Most of our sleet storms come near Mercury's equinoxes.

Venus, next outward from the Sun, is 7,480 miles in diameter and her day is about 23 hours. One year on Venus is about 224 of our days. We get most of our severe electric storms, thunder storms and hail near the Venus equinoxes. Venus and Mercury are crescents when seen in a telescope.

Earth is 8,000 miles in diameter, turns on its axis in 24 hours and its year is 365 days. Its approximate distance from the Sun is 93,000,000 miles.

Mars is next outward from the Earth. It is about 5,000 miles in diameter, its day is 24 hours and its year is 686 days. Mars is more like our Earth than any other planet.

The **Asteroids** are a multitude of small bodies moving about the Sun between Mars and Jupiter. Hundreds have been seen ranging from a few miles to a hundred miles in diameter.

Jupiter is the largest body in the system next to the Sun. His diameter is over 88,000 miles, yet this great body turns on its axis in about 9 hours, and one year on Jupiter is about twelve of ours. His equinoxes mark the greatest weather disturbances we have on the Earth.

Saturn is an immense planet, 75,000 miles in diameter, and has a system of great rings about it, 150,000 miles in diameter. One day on Saturn is about 10 hours, and a year is about 30 of our years. The great earthquake cycles of the Earth tally nearly with Saturn's equinoxes.

Uranus is about 31,000 miles in diameter, its day about 9 hours and its year about 84 of ours. It is too distant to be clearly seen and studied.

Neptune is the far off sentinel at the outskirts of our system. He is about 37,000 miles in diameter, his day has not been determined, but his year is about 164 of ours.

All The Planets move around the Sun in elliptical orbits, being nearer the Sun at some times than others in their orbits. Yet this great system is but one among thousands, some much greater in creation. All are supposed to be moving forward in space, as systems, about one great common center.

The immensity of the solar system is inconceivable, it being about six billions of miles from side to side. Yet it is but a small part of creation, only "a drop in the bucket," so to speak.

A good telescope will open up thousands of wonderful things still for any student. We can get you any size or kind you want. Write for information stating just what you want and we will do our best. We sell all kind of astronomical and meteorlogical instruments.

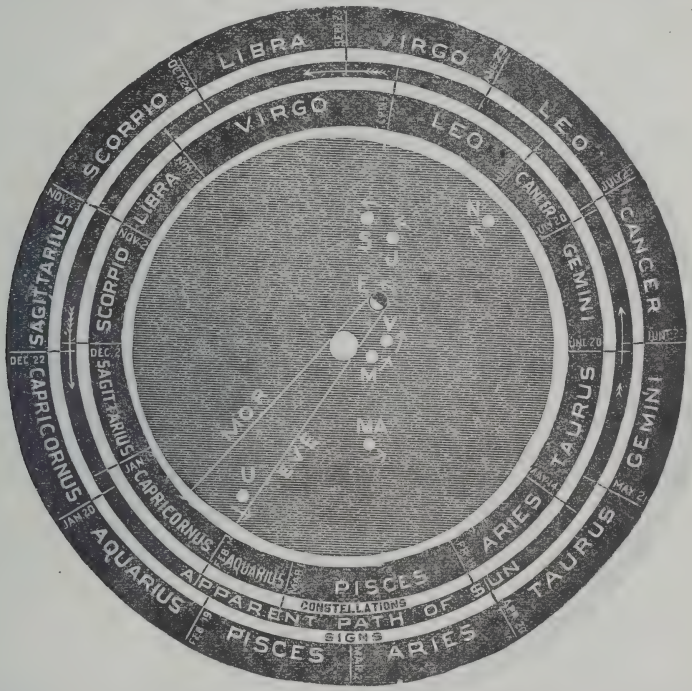
THE SOLAR SYSTEM IN JANUARY, 1921.

In order to understand these diagrams and the explanations, one must imagine himself as standing away out in space in the direction of the north star, looking toward the Sun and its system of planets. From this position we see the system as one side of a wheel, so to speak, the Sun being the hub. From our position on the Earth we look out from near the hub, along the spokes, as it were. toward the rim of the wheel. But here we see the Sun in the center of the wheel, with the planets revolving about it, all moving toward the left in the direction pointed by the arrows. The date is about January 15th, 1921. Earth is at (E) and a line is drawn from the Earth past the Sun on each side to mark off for us morning and evening stars. All planets on the "MOR" side are morning stars and all on the "EVE" side are evening stars. Thus one can tell at a glance at any time of the year by these diagrams which are morning

or evening stars, and name any bright planet in sight in the sky. Our sunrise would be about at E, hence Neptune (N) is well down the western sky at sunrise. He can be seen only in a good telescope. Uranus (U) is almost exactly opposite, beyond the Sun from us hence appears as an evening star in a telescope only. Saturn (S) and Jupiter (J) are overhead at sunrise and Mars (MA) and Venus (V) are well down the western sky at sunset. Mercury (M) is behind the Sun from us and cannot be seen this month. The rings surrounding the chart show the signs and constellations of the Zodiac, that is, stellar space, where all the fixed stars are. As we look over these monthly charts of the solar system, we should remember that every star we see and a million more that can be seen only in a powerful telescope are each a Sun as large or in many cases larger than our Sun, and that reasoning from analogy, we are reasonable in supposing that a system of planets is revolving about each star, probably peopled with some form of life and intelligences.

THE SOLAR SYSTEM FOR FEBRUARY, 1921.

In December, 1920, Mercury (M) rose just before the Sun as morning star. Last month he was right behind the Sun and could not be seen at all. Now he is evening star and sets soon after sunset. Can you see how he changed from morning to evening star? He had only to pass behind the Sun to the other side. Easy, isn't it? Neptune (N) and Uranus (U) will change place so little during the year that we need not mention them every month. Saturn (S) and Jupiter (J) are falling farther down the afternoon sky and set after sunrise, owing to the rotation of the Earth on its axis, but Jupiter is moving faster than Saturn and will pass ahead of him before the end of the year. Venus (V), Mercury (M) and Mars (MA) appear near together in the western sky as evening stars. Mercury (M) will be morning star by the first of March. See how it comes about? He merely passes between us and the Sun. One can tell



at a glance in what constellation each planet appears for the month. For February, Jupiter is in Leo, Saturn is in Virgo, Venus, Mercury and Mars are all in Pisces. Lay the straight edge of a card from Earth across the planet to the constellation at the opposite side of the circle. Of course the Moon, passing once around the Earth during the month appears in each of the constellations successively during the month. This is shown in the Moon diagrams on other pages. Even a novice in astronomy can see by these charts that the only planets whose orbits are within that of the Earth are Mercury (M) and Venus (V). Another has been suspected within the orbit of Mercury, but its existence is not sufficiently proven to accept the evidence. If there is such a planet, it is so difficult of observation that it might not be seen more than a very few times in a human lifetime, and then only under the most perfect conditions for seeing. It would never be above the horizon before sunrise or after sunset, high enough for good observation.

THE SOLAR SYSTEM FOR MARCH, 1921.

Here we find Earth at the equinoctial point, that is, the sun is directly over the equator, shining on both the northern and southern hemisphere equally—hence "equinox." Only one morning star can be seen now, that is Mercury (M) just above the sunrise but must be seen with a telescope. Uranus (U) is also a telescopic object a little higher up at sunrise. Jupiter (J) and Saturn (S) are almost over head at midnight, quite close together. Venus (V) is just above the sunset and Mars (MA) is almost in line with Venus. Here again we note the phenomenon which has always puzzled many people—the changing of a planet from morning to evening star or the opposite change. Last month Mercury (M) was just above sunset as an evening star—now he is just above sunrise. He had only to pass between Earth and Sun to accomplish this. Next month Venus (V) will be between us and the Sun and cannot be seen at all.

Even now she is too nearly in line with the Sun to be seen well. Note that Jupiter (J) and Saturn (S) are almost exactly opposite the Sun seen from Earth. This, too, at the equinoctial period! We have tried to make plain in the weather forecasts what is likely to result from this and other storm causes at this time. A couple of years more will show what results when one or more of the great planets pass through the spring in line with Earth. Mars made himself to be felt in 1920, but what may be the result in the case of the two largest planets remains to be observed. At this time Sun appears in the constellation Pisces, Mars in Aries, Venus in Taurus, Jupiter in Leo, Saturn in Virgo. Much of this month falls under the influence of the right angle of Earth to a line drawn through the Sun horizontally. Lay the edge of a card on the Sun running from between Taurus and Memini on one side and Scorpio and Sagittarius on the other and you find Earth at the right-angle to this line.

THE SOLAR SYSTEM IN ARPIL, 1921.

As noted last month, Venus (V) has taken position between us and the Sun, hence cannot be seen at all, because near the sun at midday. Mercury (M) is at his high point from the Sun in the morning sky. Not technically but in appearance. Jupiter (J) and Saturn (S) are in the western sky at sunset and Mars (MA) is down near the horizon at sunset. He will be higher and higher in the western sky month by month until passing behind the Sun from us the latter part of March and in August he will pop out in the morning sky as a morning star. This is not because of the motion of Mars, but because Earth moves faster than Mars. In March all the planets except Mercury (M) and Uranus (U) were on one side of the Sun and this is still true in April. This will cause a magnetic "pull" that will tell in weather matters. Earth will begin to feel the relief as we pass on away from Jupiter (J) and Saturn (S) and

their magnetic pull. If Earth gets through March and April this year without "shivering" (not from cold but from "quakes") we will admit that we have missed our calculations. Watch whenever the Moon attempts to cross the equator during these months. Sun and Mercury appear in the constellation Pisces still, Mars in Taurus, Neptune in Cancer, (all the year) Jupiter and Saturn in Leo and Uranus in Aquarius. We are just at the verge of spring as Sun approaches the constellation Aries. When last seen Venus (V) was in the western sky at sunset—the latter part of May she will appear in the morning sky as a morning star. By that time, Mercury (M) who is now morning star will appear in the western sky as evening star. Every reader should be able to follow these ever changing positions and find interest in watching them. Note that only about three of the twelve constellations are visible, sometimes four, the rest being in the sunshine and hence not seen. But we see a different set each month.

THE SOLAR SYSTEM FOR MAY, 1921.

Now if you lay the edge of a card horizontally on the line with the Sun at its edge, you may see that the Earth is now at the forty-five degree angle to this line. This is the electro-magnetic angle, at which we get more lightning, thunder, tornadoes (and hail if Venus is present in weather matters) than at almost any other point during the year. When we arrive at November, we will cross a similar angle but with conditions changing from summer to winter, when winter is to win the battle. Here we will find similar electro-magnetic conditions, but with variations in the weather results. In May, summer is to win and weather conditions are changing accordingly. Here we find great electrical unrest and thunder storms often appear almost daily, usually at about the same hour of the day. Sometimes we have one in the morning and another in the afternoon, the two slowly merging together and finally uniting in one

more intense storm, late in the day. Here in the May chart we see Venus (V) just emerging from between Earth and the Sun as morning star. For the last few days she has been over our heads at midday, therefore invisible to us. Mercury (M) is just above the sunset and must be seen if at all between sunset and a few moments after sunset. Mars (MA) is a little higher in the western sky at sunset. Jupiter (J) and Saturn (S) are over our heads at sunset near together in the sky. They appear in the constellation Leo. Mercury (M) and Mars (MA) are in the constellation Taurus. A straight line laid on the Earth and any other body in the system, running out beyond the circle shows in what constellation we would see the other body. Note that Mars has passed a little more than half way round the circle since we saw him in May of last year as he accompanied Earth through the electrical angle. In two or three years more we shall have Jupiter and Saturn for travelling companions through this part of the sky.

THE SOLAR SYSTEM FOR JUNE, 1921.

This month Mars (MA) is playing hide and seek behind the Sun. That means that Mars cannot be seen this month as he is overhead at midday. Jupiter (J) and Saturn (S) are just past the zenith at sunset in the constellation Leo. Mercury (M) is also well up in the evening sky at sunset. Venus (V) is a morning star this month appearing well up in the morning sky at sunrise, in the constellation Aries. Mercury (M) appears in the constellation Cancer. Uranus (U) is still in Aquarius the same as for the last year or so, but has moved a little. A child born this year would be 84 years old when Uranus comes round again to his present position in Aquarius. When Neptune appears again in Cancer, every human being now alive will have decayed to dust, so vast are the orbits of the great wanderers of the sky. Neptune is 164 of our years in completing one year of his own. Because of these great distances and

times of revolution, we have not learned to compute the influences of these two planets upon our weather. But the time will probably come when records will teach man of their influence. There are certain angles to each other which are reached by the planets from time to time and which seem to greatly agitate the currents that flow between Sun and planets and between the planets themselves, causing greater storminess, more severe storms or earthquake disturbances. One of these important configurations occurs this month in the quadrature of Saturn with the Sun. Place the corner of a card on the center of the Sun, one edge lying on the center of the Earth and the other will lie on Saturn. This is one of the strongest seismic causes known at this time, it also occurs when other earthquake causes are at hand. Watch the results, about June 6th, or within 48 hours of that date.

THE SOLAR SYSTEM IN JULY, 1921.

For July, we find Jupiter (J) and Saturn (S) almost in line with each other (in conjunction) in the western sky at sunset. They appear near the division between the constellations Leo and Virgo. Neptune (N) sets soon after sunset. Although Mars (MA) has been moving forward in the same direction as the Earth, he has fallen behind during the last month from his position behind the Sun, and is now almost a morning star. Next month he will come up before the Sun. Mercury (M) is between us and the Sun and will soon come out as morning star and rise before the Sun. Venus (V) is well up in the morning sky at sunrise and appears in the constellation Taurus. The Sun is just passing from Gemini into Cancer. July is the aphelion month, that is, Earth is at aphelion (farthest from the Sun for the year). How many of our readers have known that we are several million miles farther from the Sun in

July than in January, notwithstanding July is so much hotter than January. Can the reader explain this? He cannot by the common theories of the system, neither can anyone else. During a part of June, Venus (V) was passing inferior conjunction, that is, between us and the Sun. That means that when Mercury (M) or Venus passes between us and the Sun it is called inferior conjunction and when either passes opposite us on the further side of the Sun, we call it superior conjunction. Get this clear by a few moments' study of the chart. Note that all conjunctions of the planets that are outside Earth's orbit must be superior conjunctions as they cannot pass between us and the Sun, that is, at inferior conjunction. Earth's orbit is in the form of an ellipse, the Sun being nearer one end of this ellipse. At the July point of her orbit Earth swings round the farthest end of her orbit from the Sun and starts toward the nearer approach to the Sun, at her perihelion, (six months from now) and Autumn conditions begin to show in weather matters.

THE SOLAR SYSTEM IN AUGUST, 1921.

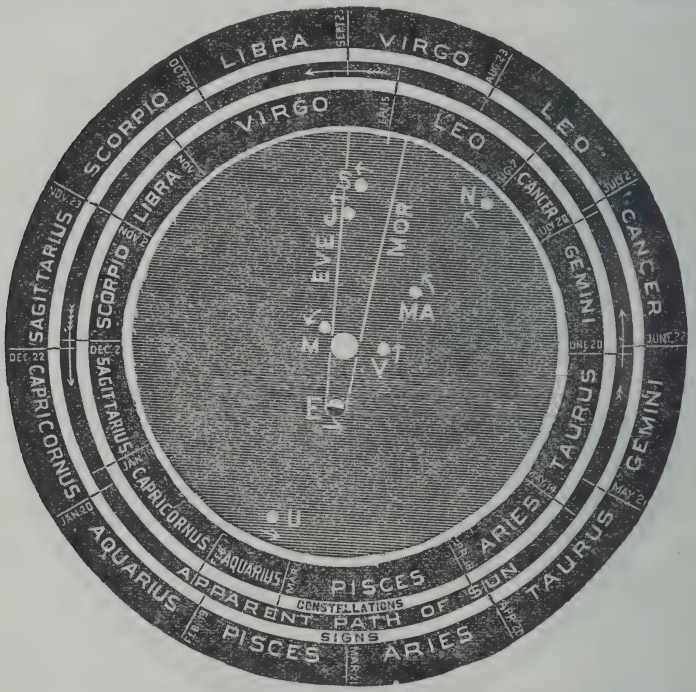
Saturn (S) and Jupiter (J) have changed positions but little since last month. They may be seen well down the evening sky at sunset, in the constellation Virgo. They are our **only** evening stars at this time. Neptune (N) and Mercury (M) are behind the sun and cannot be seen. Mars (MA) appears just above the sunrise and Venus (V) is a little higher up at sunrise. Venus appears in Gemini and Mars in Cancer. Sun is passing into Leo. If you have ever seen Venus or Mercury through a telescope, they appeared as crescents, or not exactly as disks. If we could see them when near or behind the sun, they would appear as disks, but as they recede away from the sun, they are always crescents. But none of the superior planets, (those outside of Earth's orbit) ever appear as crescents. They are always behind us as it were from the sun with Sun shining directly on their faces. Thus we see the whole of the disk.

Earth is now passing through a 45 degree angle, similar to that of May, but now conditions are swaying to Autumn. There is the same electrical strain, however, the same likelihood of earthquakes on the least provocation, disturbance of electrical machinery, etc. Such conditions are certain every year early in May, August, November and February.

When the potentials of other planetary relations to earth are just right, moon can scarcely get across the earth's equator without causing these short circuits with their accompanying quakes. This is especially true when moon is at conjunction or opposition with sun, at new or full moon.

THE SOLAR SYSTEM IN SEPTEMBER, 1921.

Here Earth is shown at the Autumnal equinoctial point. That is, we are at right angle to the horizontal line and day and night are equal. Mercury (M) has crossed behind the sun and is now an evening star, but very close to the sunset. He will be better seen near the end of the month. Venus (V) and Mars (MA) are nearly in line with each other (in conjunction) but cannot be seen because behind the sun, and overhead at midday in the morning sky. Jupiter (J) and Saturn (S) are behind the sun and cannot be seen this month. They are overhead at midday. Like the Vernal equinox, the present time is always one of great weather disturbing causes. Not only the right angle to the sun, which allows sunshine on both hemisphere equally, but the fight just now beginning between winter and summer conditions are causes for perturbations in earth and atmosphere. Once one gets the habit, it is very interesting to watch



these ever changing configurations (groupings) of the planets from month to month. Upon them depends weather conditions, quite largely, all the year round. Moon, of course, passes through all the constellations every month in passing round the Earth.

Once one gets the habit, it is interesting to watch the changes of these groupings from month to month. Upon them depends the character and intensity of weather conditions for the Earth. Note that the paths of Venus (V) and of Mercury (M) are always within the elliptical path of the Earth, because they are nearer the Sun. Vulcan (if this planet really exists) would be within the path of Mercury. Recently we had inquiries as to whether Vulcan could ever be seen passing between us and the Moon. But any one of the planets is so many million miles from us that none of them could get betwen us and the Moon.

THE SOLAR SYSTEM IN OCTOBER, 1921.

Great changes have taken place in the chart for the past few days. Mercury (M) has risen to his full height about sunset and will seem to fall back slowly toward the sun and soon set before the sun. Venus (V) is rising a little later each morning and will soon be too nearly in line with the sun to be seen. Mars (MA) rises a little earlier than Venus, also earlier each morning as we move faster than he. Jupiter (J) and Saturn (S) rise early just above the sunrise, and appear near together. However, they are no nearer together in fact, but are so nearly in line with each other that they appear near together in the sky. We are again within about a month of the 45 degree angle and all sorts of electrical unrest will be in order as we approach and pass this line in November. Sudden thunder storms and changes of temperature will be common. Winds will shift frequently and more disagreeable weather will be in vogue

than has appeared thus far. Naturally, winter conditions will be more and more in evidence from this time forward. Note that all the planets except Mercury (M) are grouped at one side f the Sun, excepting also Uranus (U) which cannot be seen without a telescope. Next month Mercury will have joined the rest above the Sun.

We do not mention Neptune and Uranus frequently, for both are seen only in a telescope, and their motion seems so slow that we can scarcely notice it for years at a time. Uranus passes only once around the Sun in two ordinary lifetimes. Neptune passes once around in about three generations of human life. So vast are the works of God, yet all the vastness circled by Neptune in a revolution about the Sun is a small particle, "a drop in the bucket," so to speak, as compared with the known facts of the universe.

THE SOLAR SYSTEM IN NOVEMBER, 1921.

Here we find that Mercury has crossed between us and the sun and is a morning star, just above sunrise. Venus (V) is also morning star almost in line with Mercury (M). Jupiter (J), Saturn (S) and Mars (MA) are all morning stars higher up in the morning sky at sunrise. The planets present an unusual sight at this time, all except Neptune (N) and Uranus (U) appearing in the constellation Virgo. Not in many years will such a thing appear again. In fact, we seldom see an exact duplicate of any grouping of the planets for any two dates. All are moving at different distances and speeds, Earth moving with the rest around the Sun. Hence an exact duplicate configuration is more theoretic than common or even possible in many generations of men. It is wonderful to think that each completes its orbit around the Sun in just so many years, months, days, hours seconds and fraction of a second, and that they

never vary a fraction of a second from their schedules. For one of the planets to wander even a few fractions of a second out of the regular scheduled path attracts the attention of astronomers at once and they set out to find the cause of the variation. Such variaions of Uranus led to the discovery of Neptune.

We are convinced that the solar system is a polarized unit, that whether the movement of the system as a whole through space has anything to do with our weather changes, at least the movements and groupings of the planets of our system and their various and varying angles to the universal poles, do work weather changes. We believe that the Sun is really a transformer—that whatever the forces of the system are, they may not come into the system as we experience them, but that they are transformed to suit the needs of the system by passing first through the Sun—the transformer.

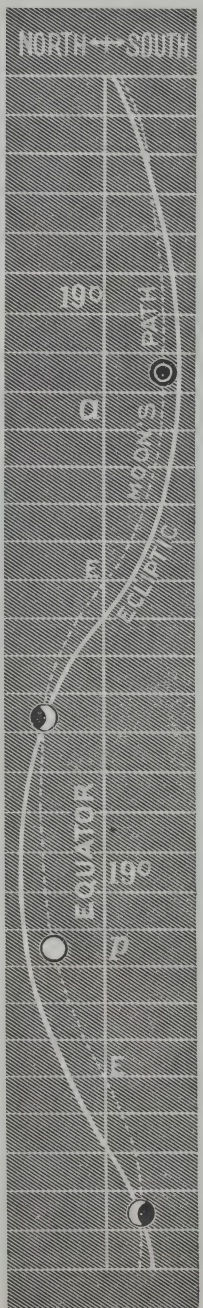
THE SOLAR SYSTEM IN DECEMBER, 1921.

At the middle of December, Mercury (M) will be "out o' sight" behind the sun and Venus (V) will be so close to the sun at sunrise that she cannot be seen well. Neptune (N) will be nearly overhead at sunrise and Uranus will be nearly overhead at sunset. They are not exactly opposite each other from the sun, but Earth is nearly in line between them. Jupiter (J), Saturn (S) and Mars (MA) are grouped near together in the Constellation Virgo and should be of interest to all who see them in a clear sky. Just a thought or two in connection with the age-long processes which the Creator is working out in nature. Uranus will pass between Earth and Neptune sometime, but a child born this year will probably have gray hairs by that time for it will be forty or fifty years in the future. The child will be an octogenarian when Neptune passes through the Constellations Capricornus and Aquarius. Jupiter is passing between us

and the sun this year, but a child of this year will be past middle age before these two will pass again in Virgo. Thus do we live out our little stipend of years and pass on to be seen no more on Earth. But the planets keep on their way for generations of the human race, yet it is quite possible that they may sometime form a configuration that will bring to pass some of the great prophecies we find in the Word.

It is well worth your while to refer to these diagrams frequently, learn what you can and show your family how much information these diagrams contain, every month. Watch the changes in the configurations (groupings) of the planets from month to month. These changes have much to do with weather changes as explained in the weather forecasts in this book. These charts have a wonderful educational value for your children.

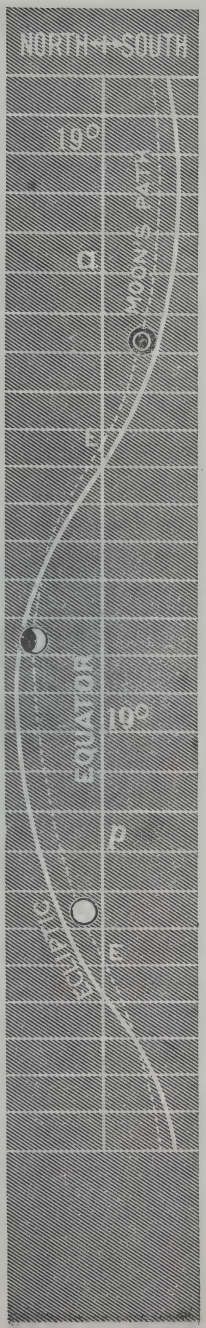
Con.	Sign	Day
VIR	LIB	1
VIR	SCO	2
VIR	SCO	3
LIB	SCO	4
SCO	SAG	5
SCO	SAG	6
SAG	CAP	7
SAG	CAP	8
CAP	CAP	9
CAP	AQU	10
CAP	AQU	11
AQU	PISC	12
AQU	PISC	13
PISC	PISC	14
PISC	ARI	15
PISC	ARI	16
ARI	TAU	17
ARI	TAU	18
TAU	GEM	19
TAU	GEM	20
GEM	CAN	21
GEM	CAN	22
CAN	LEO	23
LEO	LEO	24
LEO	VIR	25
LEO	VIR	26
VIR	LIB	27
VIR	LIB	28
VIR	LIB	29
LIB	SCO	30
LIB	SCO	31



MOON MOVEMENTS FOR JANUARY

If any reader follows through these monthly readings this year for the first time, he will be surprised and delighted. Surprised because he will most likely find that he has never understood hundreds of things about the Moon before—delighted to learn so many interesting things that are more or less vital to the well being of humans. Suppose that we were out in space beyond the Moon, and over Earth's equator, looking down upon the Moon as it moves forward with the Earth. On January 1st, we would see Moon moving away from the equator in a southerly direction in space. By the 6th Moon would reach her South declination, that is, her point farthest south for the month. On the 6th she is 19 degrees south of the equator and turns northward again toward the equator. She passes New Moon, (exactly between Earth and Sun) on the 8th and on the 9th she is farthest from the Earth for the month. This is called apogee. She continues northward until the 13th when she crosses the equator and moves on northward through space to First Quarter on the 17th. By the 21st she is at her point farthest north for the month. On the 23rd she passes Full Moon, that is, exactly opposite the Sun with Earth between them. On the 23rd she is also at perigee, that is, nearest the earth for the month. Continuing southward, she crosses the equator again the 26th, and reaches Last Quarter the 30th. Note—Moon not only crossed the equator twice during the month, but she also crossed the ecliptic (the Sun's path in space the wavy white line) on the 3rd, at Last Quarter the 23rd and at First Quarter the 30th. Now if you had the diagram on a strip of paper, and should roll it up into a hoop with the diagram inside, you would understand how the Moon has made a circuit also of the Earth during the month. She has also been at her nearest and farthest points from the Earth, that is, at perigee and apogee, respectively.

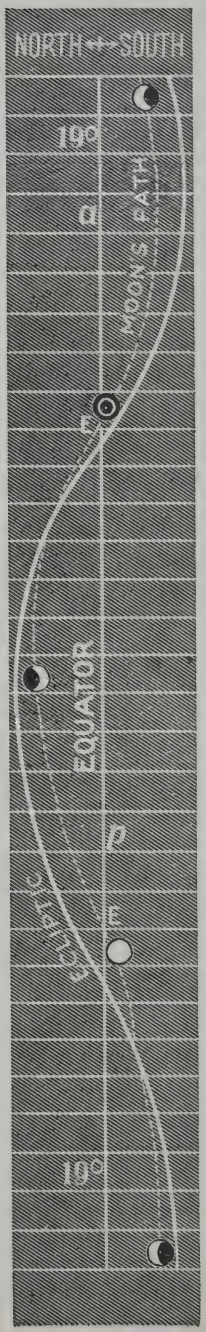
Con.	Sign	Day
SCO	SAG	1
SCO	SAG	2
SAG	CAP	3
SAG	CAP	4
SAG	CAP	5
CAP	AQU	6
CAP	AQU	7
AQU	PISC	8
AQU	PISC	9
PISC	PISC	10
PISC	ARI	11
PISC	ARI	12
ARI	TAU	13
ARI	TAU	14
TAU	TAU	15
TAU	GEM	16
TAU	GEM	17
GEM	CAN	18
GEM	CAN	19
CAN	LEO	20
LEO	LEO	21
LEO	VIR	22
LEO	VIR	23
VIR	LIB	24
VIR	LIB	25
VIR	SCO	26
LIB	SCO	27
SCO	SAG	28



MOON MOVEMENTS FOR FEBRUARY

Moon was south of the equator January 31st, but north of the ecliptic (the wavy white line) and now we find her north of the ecliptic near south declination, which is reached the 2nd, 19 degrees from the equator. On the 5th Moon is at apogee (a) and new moon is reached on the 7th. Moon crosses the equator the 10th northbound, and first quarter is the 15th, near the ecliptic. Moon reaches north declination the 17th and starts southward, reaching full moon the 22nd near the equator, having passed perigee on the 20th. The equator is crossed the 23rd and moon moves southward until the end of the month. Have you noticed that January and February full moons are north of the equator, but that in March full moon is south of but near the equator, also that all full moons until August are south but in September full moon is over the equator, and from then to the end of 1921 full moons are north of the equator again until spring months. If you have other issues of this weather book showing these moon diagrams you will find other years similar to this in the positions of full moon with regard to the equator. Ever notice it before? The speeds of Earth and Moon are not always the same with regard to each other. Suppose that a hunter starts out with his dog to pass around a lake, that the dog is between the man and the lake, but runs ahead, crossing the man's path outward from the lake. When outside the man's path, the dog slows up, falls behind the man again and passes across his path toward the lake. This illustrates the movements of Moon with regard to Earth. At first quarter Earth slows down like a motor upon which a load has been thrown, but at last quarter Earth speeds up as though the load had been thrown off. Thus the motions of Earth and Moon alternate, and change speeds twice each month.

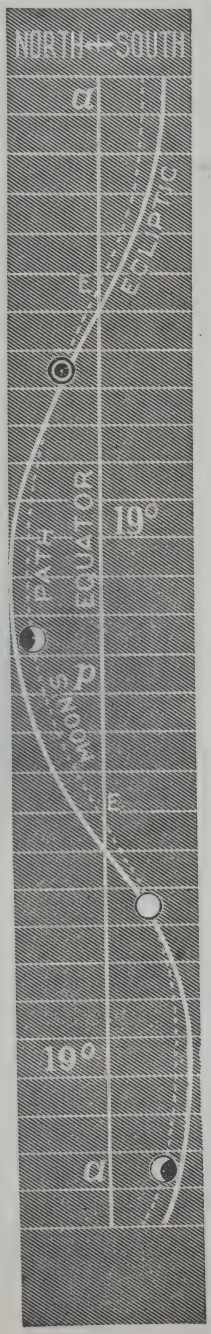
Con.	Sign	Day
SCO	SAG	1
SCO	SAG	2
SAG	CAP	3
SAG	CAP	4
CAP	AQU	5
CAP	AQU	6
AQU	AQU	7
AQU	PISC	8
PISC	PISC	9
PISC	ARI	10
PISC	ARI	11
PISC	ARI	12
ARI	TAU	13
ARI	TAU	14
TAU	GEM	15
TAU	GEM	16
GEM	CAN	17
GEM	CAN	18
CAN	LEO	19
LEO	LEO	20
LEO	VIR	21
LEO	VIR	22
VIR	LIB	23
VIR	LIB	24
VIR	SCO	25
LIB	SCO	26
LIB	SCO	27
SCO	SAG	28
SCO	SAG	29
SAG	CAP	30
SAG	CAP	31



MOON MOVEMENTS FOR MARCH.

Moon is at last quarter the 1st and here Earth speeds up to pass Moon, cooling internally until Moon reaches first quarter, when speeds reverse again as explained. South declination is on the 2nd, and apogee is passed on the 4th, Moon crossing the equator at new moon the 9th. At this point, Earth, Sun and Moon are in a straight line, with Moon over the equator. Because of the magnetic strain of this configuration, seismic disturbances are almost certain. Moon crosses the ecliptic the 13th and reaches first quarter the 16th at north declination. She is nearest the Earth (at perigee) the 20th and crosses the equator southbound the 22nd. Full moon is on the 23rd just south of the equator since early Autumn last year. Moon continues southward the rest of the month, crossing the ecliptic the 26th and at south declination the 29th. Last quarter is on the 31st. The phases of the moon are changing to other dates as may be noted, these changes continuing from month to month and year to year, for a period of about 19 years, when they will come back to nearly the same dates as in 1919. Note also that the full moons have been near the last part of each month thus far this year, but they are falling back a little each month and by the end of the year they will be about the middle of the month. This is according to a regular rule, not by any hap-hazard motions. If conditions are normal in other respects, we shall expect that the last half of each month until Autumn will be the warmest parts of the months. At this time of year, our equator is turning like a buzz-saw directly toward the Sun and sunshine is equal on both north and south hemispheres. Hence "equinox", occurring March 21st and September 21st. These are generally the stormiest periods of the year.

Con.	Sign	Day
CAP	AQU	1
CAP	AQU	2
AQU	AQU	3
AQU	PISC	4
PISC	PISC	5
PISC	ARI	6
PISC	ARI	7
PISC	ARI	8
ARI	TAU	9
ARI	TAU	10
TAU	GEM	11
TAU	GEM	12
GEM	CAN	13
GEM	CAN	14
CAN	LEO	15
LEO	LEO	16
LEO	VIR	17
LEO	VIR	18
VIR	VIR	19
VIR	LIB	20
VIR	LIB	21
LIB	SCO	22
LIB	SCO	23
SCO	SAG	24
SCO	SAG	25
SAG	CAP	26
SAG	CAP	27
SAG	CAP	28
CAP	AQU	29
CAP	AQU	30

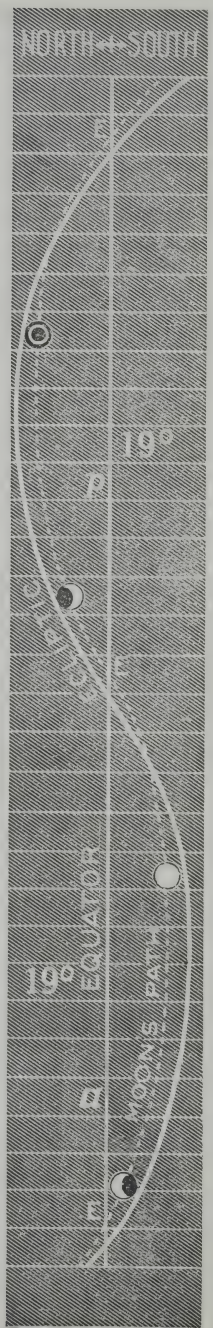


MOON MOVEMENTS FOR APRIL.

Moon's last quarter occurred the last day of March, south of the equator, and on the first day of April Moon is at apogee, (farthest from the Earth). Moon crosses the equator northbound on the 6th and is now on the 8th. As Moon is over the ecliptic, (Sun's path ,the wavy white line) there will be an eclipse of the Sun, which, unfortunately will not be visible in the United States. Note—eclipses are possible only when Moon is over the path of the Sun at new or full Moon.

The Moon continues northward, reaching north declination the 12th, first quarter the 15th and perigee the 16th. From the 12th Moon's movement is southward toward the equator which is crossed the 20th, reaching full moon on the 22nd. Note that the moon is farther from the equator at full this time, and the next time it will be still farther out toward south declination. Moon will pass through Earth's shadow at the 22nd as full Moon is over the ecliptic and if the sky is clear the eclipse may be seen in the United States. Moon passes south declination the 26th and last quarter and apogee on the 29th. As there are two eclipses this month, it is a good time to note that eclipses occur in regular order for a fixed cycle of years. That is, they are moving southward from year to year, passing from the north pole to the south pole in a cycle of about 19 years. The phases of the Moon are also changing for a similar period of 19 years, and when the 19th year of the cycle is reached, the phases will be at approximately the same points as at the beginning of the cycle. This cycle of the phases is called The Lunar Cycle, of which this year is number three.

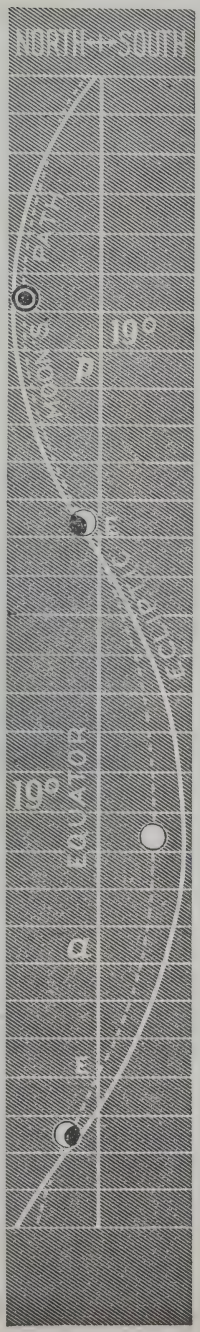
Con.	Sign	Day
AQU	PISC	1
AQU	PISC	2
PISC	PISC	3
PISC	ARI	4
PISC	ARI	5
ARI	TAU	6
ARI	TAU	7
TAU	TAU	8
TAU	GEM	9
GEM	GEM	10
GEM	CAN	11
CAN	CAN	12
CAN	LEO	13
LEO	LEO	14
LEO	VIR	15
LEO	VIR	16
VIR	LIB	17
VIR	LIB	18
VIR	SCO	19
LIB	SCO	20
SCO	SAG	21
SCO	SAG	22
SCO	SAG	23
SAG	CAP	24
SAG	CAP	25
CAP	AQU	26
CAP	AQU	27
AQU	AQU	28
AQU	PISC	29
PISC	PISC	30
PISC	ARI	31



MOON MOVEMENTS FOR MAY.

We left Moon at last quarter the 29th of April, also at apogee. As Moon was at south declination the 26th, it was south of the equator, and north of the ecliptic. As we enter May Moon is moving northward toward the equator which is crossed the 2nd. New moon falls on the 7th, not far from the ecliptic and Moon reaches north declination the 10th. Moon's perigee is on the 11th, and first quarter is on the 14th. The equator is crossed the 16th and Moon speeds southward toward full moon on the 21st. This as we have noted is still farther from the equator than last month. Three days later it is at south declination. It passes at apogee the 27th and reaches last quarter the 29th. Moon is just crossing the equator the last day of May. Here is an illustration by which young and old who may not be familiar with the movements of the moon north and south of Earth's equator, may get the correct idea of it. Take a ball or an orange, stick a pin in each of two sides for the poles of the earth. Now tie a cord around the ball midway between the poles at right angles with them. This is for the equator. Now tie another cord around the ball or orange at an angle of about 23 degrees to the equator. Let this second cord represent the Moon's path. Now hold the pins, one in each hand and turn the ball slowly over from you, with the poles held horizontally. Note that your "equator" cord turns straightly around, but the other "wobbles" back and forth from one side to the other of the equator cord. This illustrates the motion of the Moon when passing from north to south declination. Now if you think of the knot in the diagonal cord as the moon, you can observe its movements intelligently.

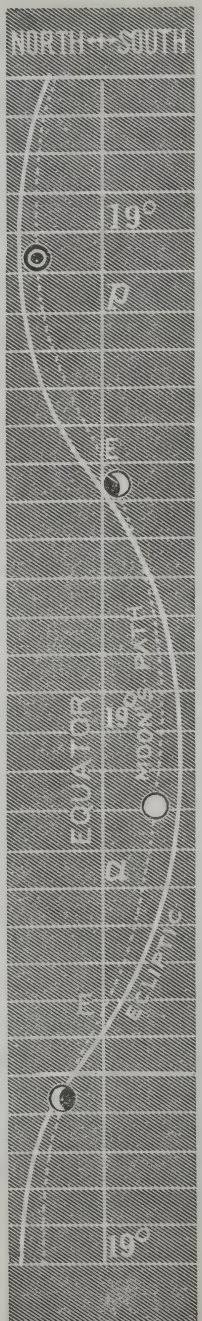
Con.	Sign	Day
PISC	PISC	1
PISC	PISC	2
ARI	TAU	3
ARI	TAU	4
TAU	GEM	5
TAU	GEM	6
GEM	CAN	7
GEM	CAN	8
CAN	LEO	9
LEO	LEO	10
LEO	VIR	11
LEO	VIR	12
VIR	LIB	13
VIR	LIB	14
VIR	SCO	15
LIB	SCO	16
LIB	SCO	17
SCO	SAG	18
SCO	SAG	19
SAG	CAP	20
SAG	CAP	21
CAP	CAP	22
CAP	AQU	23
AQU	AQU	24
AQU	PISC	25
PISC	PISC	26
PISC	PISC	27
PISC	ARI	28
PISC	ARI	29
ARI	TAU	30



MOON MOVEMENTS FOR JUNE.

Moon was just crossing the equator at the end of May, and now, June 1st is just north of the equator, moving northward away from the equator. New Moon falls on the 6th, only one day from north declination, and two days from nearest approach to Earth for the month. First quarter is the 12th, very near the equator which is crossed the 13th. Notice that the phases are falling backward a day or so each month, last month the last quarter being on the last day, this month it is on the third day from the last, next month the fifth day from the last etc., etc. Moon reaches south declination the 19th, and full moon the 20th. Apogee is passed the 23rd, the equator is crossed the 26th and last quarter is on the 28th. Moon is very near the ecliptic at this time, crossing it the 29th. These various movements of Moon are all perfectly regular, the erratic motions being only so in seeming, because of our inability to grasp the distance travelled and the immensity of the bodies themselves. What a study it would be if we could chart the movements of the nine moons of Saturn or the several satellites of Jupiter! Think of watching the motions of nine moons instead of one. Think of the many eclipses and occultations and how seemingly intricate would tLese movements seem. Yet these comparatively little bodies are all controlled by the same great Mind of God, governed by His laws and are but the same as the greater bodies, His ideas, moving so accurately that a certain number of years ,months, days, hours, minutes, seconds and fractions of seconds complete one phase of their movements. The human mind cannot grasp the immensity of space, and the perfection of all God's works in nature.

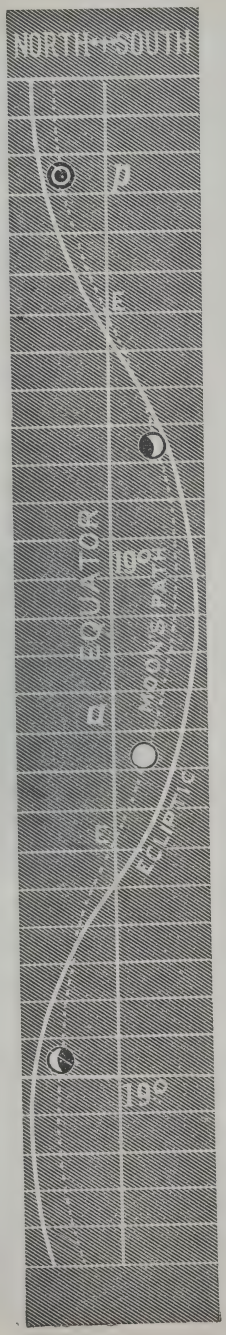
Con.	Sign	Day
TAU	TAU	1
TAU	GEM	2
TAU	GEM	3
GEM	CAN	4
GEM	CAN	5
CAN	LEO	6
LEO	LEO	7
LEO	VIR	8
LEO	VIR	9
VIR	LIB	10
VIR	LIB	11
VIR	SCO	12
LIB	SCO	13
LIB	SCO	14
SCO	SAG	15
SCO	SAG	16
SAG	CAP	17
SAG	CAP	18
CAP	CAP	19
CAP	AQU	20
CAP	AQU	21
AQU	PISC	22
AQU	PISC	23
PISC	PISC	24
PISC	ARI	25
PISC	ARI	26
ARI	TAU	27
ARI	TAU	28
ARI	TAU	29
TAU	GEM	30
TAU	GEM	31



MOON MOVEMENTS FOR JULY.

On July 1st the moon is just south of the ecliptic but north of the equator, moving still northward. It passes north declination on the 4th and new moon on the 5th turning at her point nearest the Earth on the 6th, that is, at perigee. She moves southward toward the equator again, crossing it on the 10th and passes at first quarter the 11th, close to both the ecliptic and the equator. The ecliptic is crossed the 13th and south declination is reached on the 17th. Full moon is on the 19th with Moon moving northward toward the equator which she crosses on the 25th to last quarter on the 27th, and north declination the 31st. As noted before, the phases of the moon are falling back each month. In April new moon was on the 9th, in May it was on the 8th, in June on the 6th and this month on the 5th. This, like many other things may seem to be very eccentric and irregular, but it goes on by regular rule and never varies from the laws governing it. As explained, these variations run through a cycle of 19 years, when they come back again to their former dates, nearly. While Moon is following these motions, she is also moving north and south across the equator, and from inside the earth's orbit (with reference to the sun) to outside that orbit. The movement of the moon north and south has much to do with general temperatures of the atmosphere, while her movements with regard to her phases has to do with internal temperatures of the Earth, in combination with the movements of Earth, also. Full Moon is normally the warmest part of the month for Earth's interior, while Moon north of the equator tends to cool or cold atmospheric conditions.

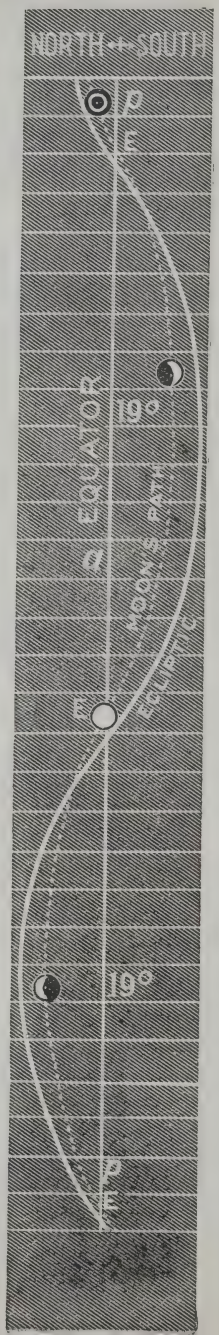
Con.	Sign	Day
GEM	CAN	1
GEM	CAN	2
CAN	LEO	3
LEO	LEO	4
LEO	VIR	5
LEO	VIR	6
VIR	LIB	7
VIR	LIB	8
LIB	SCO	9
LIB	SCO	10
SCO	SAG	11
SCO	SAG	12
SAG	SAG	13
SAG	CAP	14
SAG	CAP	15
CAP	AQU	16
CAP	AQU	17
AQU	AQU	18
AQU	PISC	19
ARI	PISC	20
AQU	ARI	21
AQU	ARI	22
ARI	ARI	23
ARI	TAU	24
TAU	TAU	25
TAU	GEM	26
TAU	GEM	27
GEM	CAN	28
GEM	CAN	29
CAN	LEO	30
LEO	LEO	31



MOON MOVEMENTS FOR AUGUST.

Moon starts from north declination the first of this month, in her journey toward the equator. New Moon falls on the 3rd, at perigee, and Moon moves forward toward the equator again, crossing it on the 7th and crosses the ecliptic on the 9th, reaching first quarter the 10th, very close to the ecliptic. If this were new or full moon, it would have missed an eclipse by only a few hours. Just here note another motion, the swaying as it were of new and full moon and the quarters from near north or south at one time to near the equator. In March, new and full moons were near north or south declination, and the quarters near the equator. This month and next these have changed places, and new and full moon are near the equator and the quarters out away from the equator. South declination is reached the 13th, and Moon turns toward the equator again, passing at apogee the 17th and full moon on the 18th, near the equator. The equator is crossed the 20th and the ecliptic the 23rd, while last quarter is on the 26th again within 24 hours of a declination, the North. On the 27th Moon turns southward toward the equator from north declination, and August leaves her midway between the ecliptic and the equator. Thus do these swaying, rythmic and seemingly irregular movements go on from month to month and year to year, never exactly the same, never swerving ever so little from the path laid out for the planets and satellites at first by the Creator. Man has never made a clock or watch that would be always on time as God's clock is, all working without friction or error. No man can study these movements of creation without becoming a better man or woman.

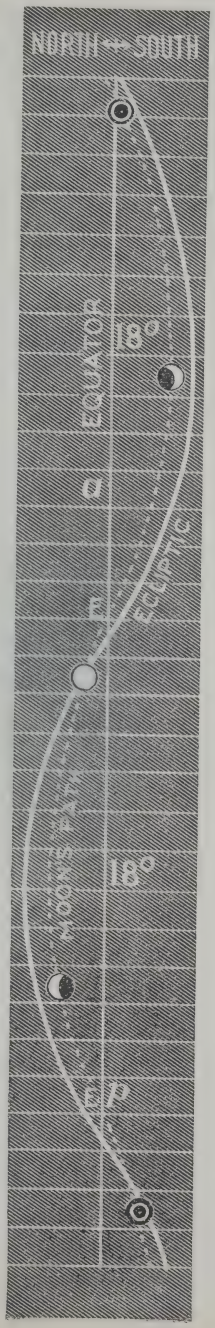
Con.	Sign	Day
LEO	VIR	1
LEO	VIR	2
VIR	LIB	3
VIR	LIB	4
VIR	SCO	5
VIR	SCO	6
SCO	SAG	7
SCO	SAG	8
LIB	SCO	6
SAG	CAP	10
SAG	CAP	11
CAP	AQU	12
CAP	AQU	13
AQU	AQU	14
AQU	PISC	15
PISC	PISC	16
PISC	ARI	17
PISC	ARI	18
ARI	ARI	19
ARI	TAU	20
TAU	TAU	21
TAU	GEM	22
GEM	GEM	23
GEM	CAN	24
GEM	CAN	25
CAN	LEO	26
CAN	LEO	27
LEO	VIR	28
LEO	VIR	29
LEO	VIR	30



MOON MOVEMENT FOR SEPTEMBER

We left Moon at the end of August midway between the ecliptic and the equator, moving southward and on the 1st of this month we find her near the equator, new and at perigee. This too, within 24 hours of crossing the equator. A stronger earthquake cause could be found only in one or two alternatives. Just keep this in mind. This will be a good time to watch for indications of gales on the lakes and Gulf or tornadoes inland. Moon crosses the ecliptic on the 4th and reaches first quarter the 8th again within 24 hours of south declination. Full moon on the equator is the mark of another quake center, on the 17th. This is not as strong a quake center as that of the 1st, but it will no doubt be heard from. Moon crosses the ecliptic the 19th and reaches north declination and first quarter on the same date, the 24th. Moon turns southward and crosses the equator the last day of the month, where we find a third earthquake combination. If September gets by without seismic phenomena, we shall miss our calculation. Smoke this in your pipe. Here is a little problem for you to explain. When sunrise, sunset and moonrise occur at the same hour, you look toward the west and say that you see the sun setting in the west, and toward the east and say that you see the moon rising in the east. At the same time the fellow on the other side of the earth reverses your statement, for his sunrise is in your east and his moonrise is in your west. Both are looking the same direction in space, but each sees just the opposite of the other. Can you explain it? Look at the round diagrams on pages 79 to 91 and see for yourself.

Con.	Sign	Day
VIR	LIB	1
VIR	LIB	2
VIR	SCO	3
LIB	SCO	4
SCO	SAG	5
SCO	SAG	6
SAG	CAP	7
SAG	CAP	8
SAG	CAP	9
CAP	AQU	10
CAP	AQU	11
AQU	PISC	12
PISC	PISC	13
PISC	PISC	14
PISC	ARI	15
PISC	ARI	16
ARI	TAU	17
ARI	TAU	18
TAU	GEM	19
TAU	GEM	20
TAU	GEM	21
GEM	CAN	22
GEM	CAN	23
CAN	LEO	24
LEO	LEO	25
LEO	VIR	26
LEO	VIR	27
VIR	LIB	28
VIR	LIB	29
VIR	SCO	30
LIB	SCO	31

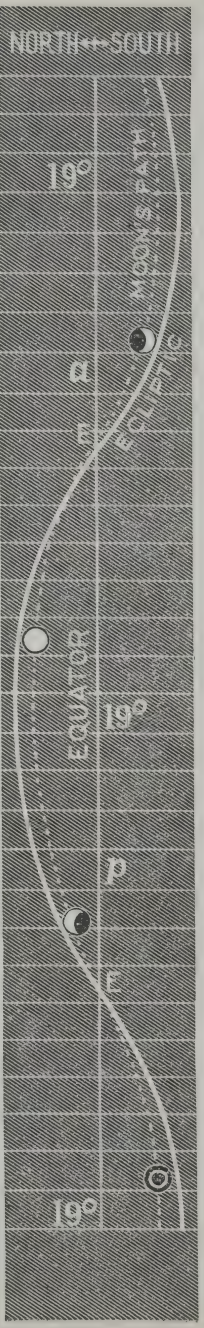


MOON MOVEMENTS FOR OCTOBER

We start out in October with Moon at new and on the equator the 1st. This date also marks an earthquake center, and quakes or tremors are very likely at or near this date. Moon is moving southward, passing south declination the 7th and first quarter the 8th. On the 11th Moon is at apogee or farthest from the Earth for the month. The equator is crossed the 14th and full moon is on the 16th, exactly over the ecliptic. This means that the moon will pass through the shadow of the earth, causing an eclipse of the moon. This will be visible in the United States. See the explanations on page 5. Unfortunately for us the eclipse of the Sun October 1st is not visible in the United States. The eclipse is total, but occurs when the sun is at the other side of the earth from us. Moon passes north declination the 21st and last quarter the 24th being at perigee the 27th and over the equator about the same time. New moon on the 30th comes very near another partial eclipse but misses a few hours.

About the time of the equinox, that is September the 21st, Sun and Moon are almost opposite each other in space with regard to Earth. Hence, at Full Moon, as the Sun sets in the west, Moon rises in the east at about the same time for several evenings. In former times harvest work began at sunrise and closed at sunset. (Think of this beside our eight-hour day!) Still, harvesters hailed gladly the Harvest Moon just described, as it gave them light for another hour or two of work. In this country the Harvest Moon is not noticed as much as in Northern Europe, and in the southern hemisphere similar conditions appear at the time of the vernal equinox in March, as then they have their best moonlight.

Con.	Sign	Day
SCO	SAG	1
SCO	SAG	2
SAG	CAP	3
SAG	CAP	4
SAG	CAP	5
CAP	AQU	6
CAP	AQU	7
AQU	PISC	8
AQU	PISC	9
PISC	PISC	10
PISC	ARI	11
PISC	ARI	12
ARI	TAU	13
ARI	TAU	14
ARI	TAU	15
TAU	GEM	16
TAU	GEM	17
GEM	CAN	18
GEM	CAN	19
CAN	LEO	20
LEO	LEO	21
LEO	VIR	22
LEO	VIR	23
VIR	LIB	24
VIR	LIB	25
VIR	SCO	26
LIB	SCO	27
LIB	SCO	28
SCO	SAG	29
SCO	SAG	30

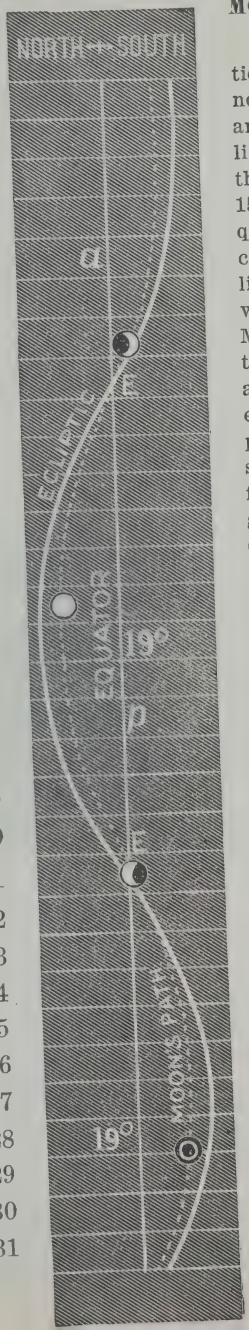


MOON MOVEMENT FOR NOVEMBER.

Here, as we consider the last month save one for the year, we note that the phases of the Moon have gradually moved forward toward the end of the months, until now new moon is on the 29th and begins to fall back the other way, next month falling on the 28th of December. In October there were two new moons, one on the 1st and one on the 30th, but here the first phase is on the 7th, being first quarter. Apogee falls on the 8th, and Moon crosses the equator the 10th and the ecliptic the 11th. Full Moon is on the 15th, and north declination the 17th. On the 21st Moon passes nearest the earth for the month, and last quarter is on the 22nd, near the equator, which is crossed the 24th. New moon as stated falls on the 29th ,and south declination is on the 30th.

Now if the phases of the Moon and their causes are not plain to you, you can demonstrate them very easily. Take an orange or other ball, stick toothpicks in opposite sides for the north and south poles. Cut a little paper disk and stick through it a pin, then stick the pin into the orange or ball midway between the poles. Then hold the poles in your hands and turn the orange over slowly toward a light in front of you. Note that if you stood on the orange as you do on the Earth, when the paper is turned away from the light, you would see the whole round face of it—that is, Full Moon. But when it is turned toward the light, you would see none of it, because it would be in the shadow. Hence the phases of the Moon are caused by the sun shining upon the Moon from different directions. You see Full Moon when the Sun is behind you in the west and Moon in the east, for instance. When the Moon is down almost between you and the Sun you see the narrow crescent, New Moon. When Moon is above your head at sunrise or sunset you see only one-half of its face, the rest being in the shadow.

Con.	Sign	Day
SAG	CAP	1
SAG	CAP	2
CAP	AQU	3
CAP	AQU	4
AQU	AQU	5
AQU	PISC	6
PISC	PISC	7
PISC	ARI	8
PISC	ARI	9
ARI	TAU	10
ARI	TAU	11
TAU	TAU	12
TAU	GEM	13
TAU	GEM	14
GEM	CAN	15
GEM	CAN	16
GEM	LIB	17
CAN	LIB	18
LEO	VIR	19
LEO	VIR	20
VIR	LIB	21
VIR	LIB	22
VIR	LIB	23
LIB	SCO	24
LIB	SCO	25
SCO	SAG	26
SCO	SAG	27
SAG	CAP	28
SAG	CAP	29
CAP	CAP	30
CAP	AQU	31



MOON MOVEMENT FOR DECEMBER

Moon has just passed south declination December 1st, and is moving northward, passing apogee the 5th and crosses the equator and the ecliptic the 8th and reaches full moon the 14th and north declination the 15th. Perigee is on the 17th and last quarter falls on the 21st, when Moon crosses both the equator and the ecliptic. South declination is on the 28th within 24 hours of new moon and Moon moves northward for the rest of the month. We believe that chances are good for a "white Christmas" but evenings will be dark and sleighing parties will not enjoy moonlight sleighing. We believe that the chances for a "white Christmas" will be very good for all northern sections of the country. The question is often asked whether the Moon turns on its axis. Some even so-called scientific men deny that it turns on its axis at all. Anyone who has ever given the matter even casual attention knows that we always see the same side of the Moon, although it passes once entirely round the Earth every month. Hence, it must also turn on its axis once with each passage round the Earth, else we should see the other side part of the time. But the same side, (or, rather, **end,**) is always toward us, except that at different angles we do see a little farther round on either side, as the sace may be. In truth, **the Moon is the shape of an egg,** with the **small end** always toward us.

Now that we have been through these diagrams together again, we hope that some readers, at least, have received some benefit from the study. There are a thousand things that we have not been able to mention for lack of space, which would make interesting reading for one who cares to learn more of creation. Some of the points we teach have never been presented by any other astronomer or meteorologist, but we have demonstrated their truth or they would not appear here.

THE MOON AND ITS MOVEMENTS.

The engraving, although made and used several years ago, will answer our purpose at this time. Here the progress of Earth and Moon **together** is shown for the period of one lunar month; that is, from one new moon to the next new moon. The phases of the Moon, as here shown, are just as we see them when actually seen from the Earth.

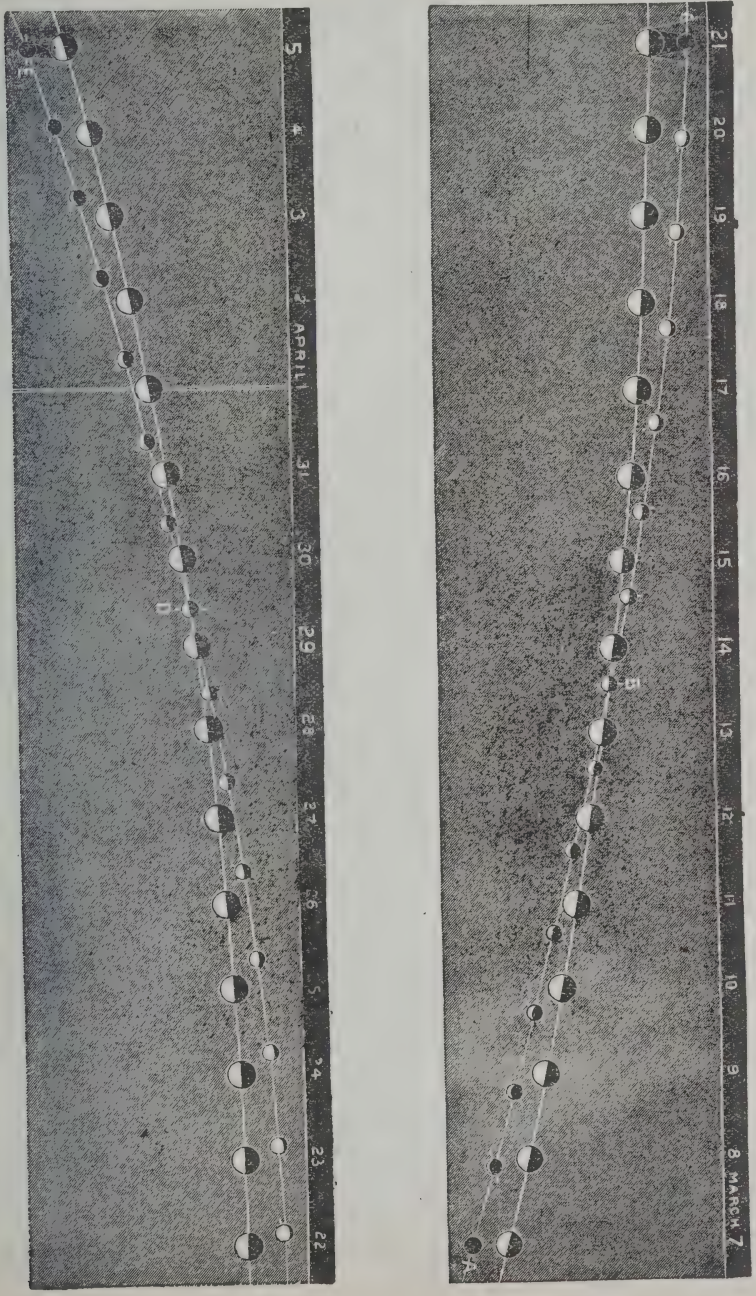
On the 7th day of March, let us say, the Moon is between Earth and Sun, as at A, which is new moon; hence, the Moon is not visible from the Earth, being between Earth and Sun with its dark side toward us. Day by day, as the Moon moves forward, its under rim becomes more and more illuminated, while at the same time the Moon lags behind the Earth. At B, on the 14th, the Moon is crossing Earth's path, **behind** the Earth, from inside to outside Earth's orbit, being seen from Earth at its first quarter; that is, one-half of its surface illuminated. Of course, readers understand that this illuminated part at either quarter is really only one-fourth of the Moon's surface, as one side (and always the same side) is always turned away from us and is never seen at all. From the 14th to the 21st, Moon "speeds up," so to speak, until on the 21st it is alongside Earth again, but this time opposite the Sun and outside Earth's orbit. Here, if it were not for the illustration of an eclipse in the engraving, Moon would appear at full moon as a round disc. If full moon occurs when the Moon is on the ecliptic, it passes through the shadow of the Earth and is thus darkened or eclipsed. If not just on the ecliptic, it passes to one side of the Earth's shadow. From C to D, the 21st to the 29th, the Moon gains on the Earth, and on the 29th crosses Earth's path **ahead** of the Earth, to the inside of the Earth's orbit at last quarter. Then from D to E, the 29th of March to the 5th of April, the Moon lags again until alongside the Earth at new moon. If new moon occurs when Moon is on the ecliptic, between us and the Sun, her shadow falls on some part of the Earth, causing, for that part, an eclipse of the Sun. Just what part of the Earth is thus shaded depends upon Moon's distance from the Earth and the year and time of the year it occurs.

The white lines projecting on either side of the Moon in the engraving, are made to show that the Moon **must** make one complete revolution on its axis with each movement around the Earth, seeing that the same side of the Moon is always toward us. In the nature of things, no engraving can give all these movements perfectly, but these are the best ever presented for the purpose.

An interesting point is illustrated here—that from last quarter to first quarter the Moon seems to lag behind, giving Earth a chance to get ahead. From first quarter to last quarter Earth seems to lag and Moon gets ahead of it. These movements have much to do with temperatures on the Earth, as for instance, arrested motion generates heat, hence we may look (all other things being normal) for our warmest part of the month while Moon is passing from first to last quarter, that is, while Earth seems to "slow down" and allow Moon to pass her.

There are several well known and understood causes at work which compel the Moon to fall back a little each succeeding time it crosses Earth's path, and this retarded motion causes what is called the Lunar cycle and determines the golden number.

The Moon's real shape appears to be that of an egg, with the small end toward the earth. Whether this could be demonstrated by usual scientific methods, we cannot say, but it has been demonstrated by photography.


MARCH
APRIL
A
B
C
D
E

CHRONOLOGICAL ERAS AND CYCLES.

Chronological Eras.

The year 1921 of the Christian era comprises the latter part of the 145th and the beginning of the 146th year of the independence of the United States of America, and corresponds to the year 6634 of the Julian period.

Of the peoples using the Christian era some employ the Gregorian calendar and some the Julian. January 1, 1921, Julian calendar, correspond to January 14, 1821, Gregorian calendar.

The year 7430 of the Byzantine era begins on September 1, 1921, Julian calendar.

The year 5682 of the Jewish era begins at sunset on October 2, 1921, Gregorian calendar.

The year 2674 since the foundation of Rome, according to Varro, begins on January 1, 1921, Julian calendar.

The year 2670 of the era of Nabonassar begins on April 30, 1921, Julian calendar.

The year 2581 of the Japanese era, being the 10th year of the period Taisho, begins on January 1, 1921, Gregorian calendar.

The year 2233 of the Grecian era, or the era of the Seleucidae, begins in the present-day usage of the Syrians on September 1, 1921, or on October 1, 1921, Julian calendar, according to different sects; but in the ancient usage of Damascus and Arabia Petraea the year began with the vernal equinox.

The year 1638 of the era of Diocletian begins on August 29, 1921, Julian calendar.

The year 1340 of the Mohammedan era, or the era of the Hegira, begins at sunset on September 3, 1921, Gregorian calendar.

2,422,691 is the Julian day number of January 1, 1921, Gregorian calendar.

Chronological Cycles.

Dominical Letter	B	Solar Cycle	26
Epact	21	Roman Indiction	4
Lunar Cycle or Golden Number	3	Julian Period	6634

WANDERINGS OF THE MOON.

At one time of the year, as perceived from the latitudes of the United States, the moon is perceived to have a position very low in the southern sky, so low, in fact, as to cause some people to state that they had never seen it so low, and they have wondered what caused the supposed phenomenon. At another time, usually about six months later, the moon, having approximately the same phase, is seen to have its place very much higher up in the sky. So some people think there is something wrong with the actions of the moon, although, on the contrary, they do not have any idea that there is anything wrong with the high positions of the sun, so plainly to be seen in the summer, or with the sun's low positions as seen during the winter.

Notwithstanding the suppositions of some people, as mentioned above, it must be acknowledged that those who are familiar with the motions of the sun and moon, and with their positions from day to day throughout the year, do not perceive any irregular motions in either the sun or the moon. Neither do they perceive that these two luminaries occupy any unusual places on any day of the year. On the other hand, they understand that the supposed irregularities in the motions and places of the sun and moon are the correct motions and places of the two, due to the unvarying laws which govern them.

One of the factors to be considered as the cause for the queries mentioned above is that very few people are aware of the changing positions of the sun from day to day. This is due to the fact that the changes are almost imperceptible from day to day, it being taken for granted that there is no apparent change in the declination of the sun, although the changes are plainly discernible to a good observer in the course of only a month. To the masses the sun seems to rise at almost the same minute each day; or, at least, it does not either rise or set with as great irregularities between successive dates as is perceived to be the case with the moon during the course of a month.

The failure to note the differences in the sun's daily positions may be caused, in part, by the great brilliancy of the sun and the inconvenience caused, accompanied with pain, to the eye, in the observation of that luminary. Another factor to be considered in the explanation is that individuals are so much interested in earning their livelihood, and in following their vocations, they really have not the time to spend in looking at the sun, except for the purpose of learning that it gives them day light; and it is usually considered as being a secondary affair, when it is, in reality, the cause of all physical life, so far as materialists can fathom the matter. On the other hand, the moon is usually seen when the individuals have leisure time; and it is seen in the absence of great illumination from the sun, and at such times when its face gives more pleasure than when looking upon the face of the sun.

In attempting to explain the apparently incongruous movements and positions of the moon we find that there are three factors to be considered. When comprehended, they clear up the difficulties mentioned. They are: First, the inclination of the Celestial Equator to the Ecliptic; Second, the inclination of the moon's orbit to the Ecliptic; and, Third, the latitude of the observer.

In order to understand the subject thoroughly one should place himself, in fancy, upon the terrestrial equator, and there observe the positions of the ce-

lestial objects. When so placed the observer will notice that he is able to see all of the stars visible in both the northern and southern hemispheres, for the celestial equator, which is the projection of the terrestrial equator into space, will be found to pass from the exact western point of the horizon through the zenith to the exact eastern point of the eastern horizon, thus dividing the northern from the southern hemisphere.

Furthermore, let the time be at the exact moment of sunset, on the day of the vernal equinox. In addition, let the individual suppose that he can see the exact spot of the First Point of Aries, where the sun crosses the "Line." When he has so determined the exact point in the sky, let him trace the Ecliptic, or supposed path of the sun, which will be found to run at an angle of 23 degrees 28 minutes to the celestial equator. He will then note that the Ecliptic is just 23 degrees 28 minutes north of his zenith. From that point he will note that the Ecliptic approaches the celestial equator, at the eastern horizon; and from the latter point passes to the southern side of the celestial equator, and reaches the place where it will be 23 degrees 28 minutes south of the zenith at sunrise the following morning.

In its apparent path throughout the year the sun's position changes each day. From the vernal equinox it moves northward until at the summer solstice it is 23 degrees 28 minutes north of the celestial equator, and then it regresses until it meets or reaches the celestial equator at the autumnal equinox. From that point it passes southward until at the winter solstice it is 23 degrees 28 minutes south of the celestial equator; and then it goes towards the north, when it reaches the celestial equator on the date of the vernal equinox.

As seen from the terrestrial equator, the sun in the summer time is perceived to be 23 degrees 28 minutes north of the zenith, at noon of the summer solstice, and also 23 degrees 28 minutes south of the zenith at noon of the winter solstice. Adding the two distances together we obtain 46 degrees 56 minutes arcual distance as being the yearly variations of the sun's daily positions, as seen from the terrestrial equator, or other portions of the earth's surface. That is, on the day of the winter solstice the sun's position is perceived to be almost 47 degrees south of its position at the summer solstice. This is a little more than one-half of the arcual distance from the horizon to the zenith. Notwithstanding that this distance is so great, but few people realize it, because they do not pay enough attention to the positions of the sun during the year.

All astronomical students understand that the path of the moon almost coincides with the Ecliptic. Yet there is a slight variation therefrom, due to the moon's path, or orbit, being inclined at an angle of 5 degrees 8 minutes to the Ecliptic. This causes some variations in the positions of the moon.

The two points at which the moon's path crosses the Ecliptic are called the nodes, the ascending and the descending node. The ascending node is where the moon's path crosses from the south to the north side of Ecliptic. The descending node is the point where the moon's path crosses the Ecliptic from the north to the south side of the Ecliptic. The nodes slide westward on the Ecliptic, the same as the vernal equinox, the period being about 19 years. The changes caused by the varying positions of the nodes constitute one of the

causes for the varying positions of the moon due to the inclination of its path to the Ecliptic.

When the ascending node of the moon's orbit coincides with the First Point of Aries the angle between the moon's path and celestial equator is 28 degrees. 36 minutes, this being the sum of 23 degrees 28 minutes, the obliquity of the Ecliptic, plus 5 degrees, 8 minutes, the inclination of the moon's orbit to the Ecliptic. At such time the moon will go as far north as 28 degrees 36 minutes, and in two weeks time it will go as far as 28 degrees 26 minutes south, of the celestial equator. This makes a difference of 57 degrees 12 minutes arcual distance between its extreme northern and southern points in the sky.

On the contrary, when the descending node occurs at the First Point of Aries the moon's range is 5 degrees 8 minutes less on each side of the celestial equator, that is, only 18 degrees, 20 minutes. In this case the whole range is but 36 degrees 40 minutes. This phase of the nodes transpires in 1921.

From this one may perceive that there will be considerable variations in the moon's meridianal positions, due to the different positions of the nodes, varying in the total range from 36 degrees, 40 minutes to 57 degrees, 12 minutes.

Having determined the causes and extent of the varying positions of the moon as seen from the terrestrial equator, we are now in a position to comprehend the observed changes caused by the latitude of the place occupied by the observer in other portions of the earth.

After the observer has moved northward to, say, the 10th degree of latitude, he will notice that the apparent paths of both the sun and moon have moved at least ten degrees towards the south, and that the north celestial pole is seen to be 10 degrees above the northern horizon, and that the south celestial pole has disappeared from view. Furthermore, he will notice that the sun and moon, as also the stars, move in lines more or less oblique to the horizon, and that all celestial objects rise and set farther north than they did at the equator. When he reaches the fortieth parallel of latitude he will note that there are much greater changes. He will note that both the sun and moon are south of his zenith when they pass the meridian, instead of being north of same when at the terrestrial equator. Furthermore, the sun, moon and stars will be seen to move athwart the sky at much greater obliqueness than at the equator; and also all visible celestial objects will apparently rise and set farther north than at the equator. This latter phenomenon is caused by what is known as amplitude. It must also be understood that the farther north one goes the greater will become the number of stars in the southern hemisphere which will become invisible due to their depression below the southern horizon.

At the winter solstice, the sun being at its extreme south declination, it necessarily follows that the Full Moon will be at its extreme north declination, same ranging from 19 degrees, 20 minutes to 28 degrees, 36 minutes North Declination, thus causing the moon to be very high in the northern sky, the altitude varying between the ranges given, according to the positions of the nodes.

On the other hand, at the summer solstice the sun will be at its greatest north declination, giving us an exceedingly long day; and the Full Moon will be at its extreme south declination, same varying from 19 degrees, 20 minutes to 28 degrees, 36 minutes South Declination, thus causing the moon to be very

low in the southern sky, the altitude also varying between the declinations stated, according to the positions of the nodes.

A careful study of the preceding will enable one to solve the puzzle of the moon's supposed variable positions from day to day.

Whilst the observer who goes northwardly will see the moon in the southern sky, the one who would travel southwardly from the terrestrial equator would see the moon in the northern skies. If either or both should reach the north and south pole respectively, the positions of the moon might seem to be more complex from day to day, than when seen in the latitude of the United States.

C. T. KENNEY.

East St. Louis, Ill., July 12th, 1920.

POWER FOR EVERY PURPOSE.

Century after century the human race drifts on, mostly indifferent to its dependency upon some definite and inexhaustible source of energy, meanwhile depending upon various make-shift non-dependable schemes for supplying present needs. People on one half of the earth's surface cannot live without heat besides what nature furnishes. The other half cannot live in comfort without devices for cooling their homes, foods and themselves. Formerly we depended for heat upon the immense forests which covered the most of the earth's surface. But as the demands for power for manufacturing, travel and development of resources increased, these forests gradually disappeared, not being sufficient to keep up the ever increasing demand. In the course of time, coal was discovered and for a time has filled up the gap and furnished the needs of the present. Then we began to tap the interior of the earth for oil, and this has helped to supply the needs. But, while the coal supply is not very appreciably exhausted, it is true that the demands are increasing faster than most people suppose, and the best informed engineers are predicting that if the demands continue to increase for a couple of centuries more, the coal will be all either used up, or will be so expensive to get that it cannot longer be depended upon to supply the needs of civilization. The prodigality of man in destroying the great forests at such an alarming rate has but recently been realized, and now it will be a century before the millions of acres so ruthlessly denuded of forests can be renewed and furnish any supply of wood that will be appreciable in the midst of the great needs for building purposes, say nothing of the needs for fuel and consequent power. It is not strange that the minds of thinking men who have to do with the great things of manufacture and commerce are beginning to look about and ask, "Whence?" as they contemplate the increasing needs of the next generation and the fast decreasing supply. When the forests and the coal and the oil are gone, then what? Many console themselves with the declaration that something will be found to fill the need, but this does not answer the question of "whence". It is well to look the present status of the world's need and supply squarely in the face. Why are we paying fourteen or fifteen dollars a ton for anthracite coal, whereas we used to get all wanted for less than half that amount? It is not sufficient to say that labor is higher now than then. This is true, but why higher? The great increase is due to many causes, but for each article in its own line. Anthracite coal will never be cheaper, in all probability, although the need for it will go on increasing. One

prominent reason for higher price lies in the mines themselves, because the miners are running closer to the end of the supply. With the crude contrivances of a century ago, mine operators could not furnish coal for fifty dollars a ton. It takes more energy to mine it, and this increase will go on in proportion to decrease of available coal. This same principle applies to every source of supply known by man today. Lumber that is even merely decent for building purposes is almost prohibitive because of high prices. In brick, stone and granitoid lies the only hope for the next generation for building materials. Two hundred years hence, coal will be impossible in any great quantities, while the needs will have increased many fold as compared with today. The oil supply will not last always. The supply must give out sooner or later. We cannot depend upon the fact that the manufacture of all these products is going on all the time. This is no doubt true. But so is the manufacture of stalactites and stalagmites in caves where water trickles through from above. During the millions of years of the past, this process may have covered the ceilings with one and the floors with the other. But suppose man came along, bored holes under the stalagmites, put in a shot of dynamite and in a single second blew the whole stalagmite supply out of the cave? Could he expect that there would always be plenty more stalagmites, when it takes ages to make one, and he continues to blow up one every day or two, even? That is about the status of the coal and the timber and the oil supply. The oil supply has no doubt been in the earth for ages, and the processes of its manufacture are no doubt going on still and will continue for ages to come. But let man get a footing in an oil field and sap its supply out in a hundred years. Can we wait an age or two for the renewal of the supply? What shall we do in the meantime? Why, civilization will die a hundred times before either coal or oil will be furnished by nature's age-long processes. Something entirely new and far more inexhaustible than anything ever yet discovered must be found, or civilization must wither and die. We should try to look these great problems in the face in these days, and seek to point out, if not the real solution, at least the central idea around which the thought and inventive genius of man may cluster until the solution is found.

Many of the world's great discoveries have come by accident. Not many have come by hard, persistent study and research, for the reason that mankind has been under a ban of superstition and error from early ages. This is true today, to the extent of keeping man away from the mines of power that have been waiting through past centuries for his discovery, appropriation and use. Why is it that abundant power for all possible needs has been lying useless for centuries, while man has been mining coal by hard, expensive processes, delving for oil and denuding the earth of forests in a vain endeavor to supply the needs of civilization? Is it supposable that a kind, resourceful Deity has produced a world, peopled it with his living ideas without providing for the certain needs of these ideas (mankind)? We do not believe this. Nor do we believe that the needs of this world are to go unfilled or even unsatisfied indefinitely. No reform can be inaugurated until the need for reform is recognized and cause for present circumstances is pointed out and understood. Here is a world, rich in resources for all possible needs, yet struggling along with only a part of its needs supplied, facing the certainty of disaster in the no

distant future unless the secret of the necessary supply is discovered and the remedy applied. Before we can even point out a remedy, we must understand the "why" of present shortage. We have outlined a few points as to the present shortage of fuel and materials. Now if an abundant supply of power lies at easy hand, why have men not found it and why not using it today? Let us repeat here parts of an article widely published recently, aiming to point out an unlimited source of supply, (which has proven unreachable) in order to point out the great error that has palsied the genius of a world for centuries, and prevented the discovery and utilization of natural resources, and will continue to plunge the world into still greater misery year by year and century by century, until the error is cast out of man's thought and newer, more correct conceptions shall have taken its place.

We do not know with just whom the idea of a hot interior for the earth originated. We do not know of a more silly or unreasonable theory than that the earth is merely a (comparatively) thin crust, within which all is a boiling seething mass of molten materials. As we shall point out later on, such a theory is entirely untenable. As far as we know, it was Camille Flammarion, a noted Frenchman who suggested boring down into the earth a hole five miles deep just to see what happened. Nothing did happen, for the hole was never made. Drawing on his great imagination and fancied knowledge of the character of the earth's construction and internal condition, Flammarion pictured the possibility of an excavation a quarter of a mile wide, and five miles in depth. It would require an army of men with gigantic cranes and lifts and a fortune's worth of dynamite, to say nothing of the time consumed (probably many years) to finish such an undertaking. But first, if given unlimited money, men, machinery and time, how deep would man be able to go into the interior of the earth? No man knows, or ever will know, but from what has been found from special boring test, probably not more than a mile, possibly much less than a mile. It has been found that the temperature for the first hundred feet or so does not change much, but that below a hundred feet it changes rapidly, and for every 66 feet deeper, it becomes one degree hotter, that is, 80 degrees per mile. Add the 52 degrees average at the surface and you have 132 degrees at one mile deep, or 452 degrees at five miles. Water boils at 212. If you dropped a tin can down a five mile hole, it would simply melt into vapor and never reach the bottom. However, much of this calculation is merely theory, for no man has ever tested it, but the idea being worked out in some parts of the world is that by boring holes into the earth to great depth, all the heat needed by man might be obtained. Such holes have been bored in Italy, and steam rushes from them under high pressure. Attempts have been made to utilize this steam with partial success. This is not hard to do, except that the chemical properties of the steam thus obtained are such as to destroy metal parts of the engines, and render them valueless in a short time. But such a method would ever remain crude at the best, even provided it proved a success.

Now, as nearly as we have been able to discover, all the theories dealing with interior heat of the earth are presented with reference to the supposition that the whole of earth except a comparatively thin crust is exceedingly hot, at white heat in fact, and that the central parts are merely melted or molten matter. This, it is supposed is always hot enough to keep stone or any other

materials molten. We wish to go on record right here as denying this molten idea and denouncing it as too silly and untenable for any but a very weak mind. We do not believe it, never did believe it for many good reasons. We do not deny the facts proven by actual boring tests, and are willing to admit that part, at least, of the materials of which earth is made, at least such parts as can be reached by boring, are proportionately higher in temperature than materials at the surface of the earth. Even let the heat be admitted as estimated by the Flammarion followers, and that this heat comes out through bored holes, to the surface. It has been said that if given a lever long enough, and something to rest it on, scientists would move the earth itself. But in this case science has yet to find the fulcrum on which to rest the lever.

To illustrate—suppose that an eggshell is emptied of its contents, and the interior filled with molten metal. How long would you care to hold it in your hand? Could you hold it at all? Now, according to the estimate of these same theorists, the crust of the earth is even thinner in proportion to the whole size of the earth than the eggshell to the size of the egg. Now if the earth is formed like that, and if the whole interior is filled with a boiling, seething mass of molten material, would living beings exist on the surface? How long after the interior became molten did life exist on the earth if it existed there before the heating process began? Would not all life have been destroyed long before the interior became a tenth part as hot as estimated, or as to become molten? And it is supposed that this great heat has been kept up for many ages, no man knows how long. How is it that the surface remains cool? Right here is where this molten interior theory destroys another pet theory of astronomers and geologists, et cetera. We shall have occasion to call to mind this other pet theory later on.

One or two questions more about this molten interior theory. Whence the heat for this great caldron of molten materials? We must have coal or other combustible fuel for the production of heat, with one exception—that exception being that we have learned to get up heat with electricity. But as we must have heat for power to generate the electric current, and as we lose nearly one-third of the original heat in producing heat from electricity, it is patent that some other method of gaining heat must be used in nature's workshop. But we shall come back to the problem of earth's internal heat. But bear in mind, we denounce the idea that earth's interior is molten as too untenable for a second thought. If that theory were true, any living thing would die and be turned to vaporous invisibility in a short time if placed on the earth's surface. The highest mountain tops would be too hot for life to continue, even for a short time. Another point—is this great heat maintained by the combustion of anything whatever? If so, what material is thus burned, and whence the supply? Why such a fire would have burned up the earth millions of years ago, and earth would have become merely an addition to the vapors which some suppose to be floating about in space. Once more, we admit that the center of the earth may be warmer than the surface, and that it probably is not as warm at some times as at others, but we claim that we can prove before we are through that no part of the earth is ever hotter than will best serve the needs of life producing and life sustaining activities on earth's surface. A molten cen-

ter would call for a constant temperature, unless, perchance the heat was constantly increasing, which later would still further explode the whole theory.

Distinguished scientists, such as Sir Oliver Lodge and others of his grade, have suggested that we shall some day be running all our machinery by what they call atomic power. We do not know just what they mean by this term, but we get an idea now and then from newspaper paragraphs. An ounce of matter, they claim, may contain enough power to run a steamship liner across the ocean. Sir Oliver Lodge is reported as saying, "It is known beyond any question that an unlimited amount of energy is stored up on every hand in compact form." Using the term "energy" in this sense cannot involve the thought of some material atom, atoms or material matter in any form, seeing that all material matter is but one of the products of energy in action. The real "energy" itself must be sought still further back, nearer nature's work-shop. Energy is not action, nor yet the cause of action, because before action must come a first cause, then materials to move or develop motion or action. Seeing that all material matter must develop from mind, or idea, which is purely spiritual, therefore energy comes before material matter, and if stored up on every hand, in what is it stored? Could it be stored up in its own product? Here is the usual wrong conception of cause. It is thought of as a something that can be stored up, when every particle of matter is full of its normal amount and cannot hold more. It is manifestly an error to ascribe energy to something that is itself a product of energy. In very much this same manner may all the usual theories be run down to nothingness. There is but one basis upon which to build—that of a universal cause from which all else must evolve— and this basis is found in all perfection in the system we advocate and have been demonstrating for half a lifetime, that this thing or principle we call electricity in its developed or applied form in nature's workings is the real manifestation of First Cause, and that all else exists as a result of the presence and activity of that First Cause—God—Deity.

Sir Lodge is reported as saying, "We have seen how radium throws out its mysterious power force for thousands of years. Some of these days, a scientist, perhaps one of the boys who reads this, will discover the great secret of how to liberate this energy and transform the machinery of the world." There are undoubtedly great possibilities in radium, but can enough of it be found and utilized to fill the needs of the world for heat, light and power in ever-increasing quantities? Radium is merely a product, evolved from other products of force or matter by the use of certain power. Can the world continue indefinitely while depending for its increasing needs upon a product, worked out of limited materials by the use of power that must itself be worked out through other materials and sources? That is one of the present difficulties—we get electric power only by using other power, and this other power only by clumsily harnessing water power or burning fuel. We are "getting by" after a fashion, it is true, but how long can we continue thus? When the fuel supply gives out, as it will, man will still face the problems he faces now, but under greater need than now. Why not face and solve the problem. We cannot afford to lose time because of prejudice or time-worn theories. Test out every theory thus far presented and you will run it back to the truths we have stated, and face the same difficulties we face today. Man must find out the secrets of natural power,

the kind nature uses every day, everywhere, all the time. Nature is lifting millions of tons of water from every mile of earth-surface daily. More water falls in a rainstorm area that covers, as is frequently the case, several states, than is contained in all the rivers and lakes on the continent. Whence comes it all, and how was it lifted up above the earth to fall as rain? Inconceivable trillions of tons of ice and snow are deposited on the mountains and table lands every winter. Whence comes it all, and if lifted up from the level of the sea, by what power? Man must discover the power and modus operandi of these constant activities about him and learn how to work by similar methods, or at least to use the same forces as nature.

DOWN TO BED ROCK.

There are many theories with regard to the methods of the Creator in building up the universe, but most of them show a disregard for Bible statements of creation, and a desire on the part of the writers to discard all idea of a Creator, and to discountenance all Bible teachings. These or similar tendencies appear in all the theories we have ever studied, yet not always, we hope, with the real purpose of denying the existence of a Creator with or without reference to any religious beliefs. We believe that this tendency is more a result of ignorance or misunderstanding of the real teachings of the Bible. As a close student of different branches of science, we have yet to find any facts or works of nature or logical claims of science that conflict with what the Bible teaches. There have been many people, it is true, who are so wrapped up in superstitions that they cannot or will not admit any fact of science whatever, under the false impression that Bible teachings condemn science and call for faith alone. St. Paul mentions the necessity for shunning "vain babblings of science, falsely so called," but we fail to find anything to condemn true science.

But we are not so much concerned about just how the solar system was made—We are most concerned to know more of the forces that operate it now, and when we shall be familiar with these and can use them to their fullest capacity, we may turn to and ferret out the secrets of creation. A thousand questions flash into mind as we look about us. The humidity of the atmosphere is constantly changing. Some tell us that this is due to changes of temperature. Very well, what causes changes of temperature? We are told that nearly if not all storm phenomena are due to temperature variations. We are not satisfied with an answer which merely refers to some other phenomena for its cause. We repudiate the theory of a molten interior for the earth, but we admit that temperatures are higher as we go down into the earth. We want to know why. If we were careless and credulous enough to accept so illogical a theory as the molten interior, who will tell us why it is molten? Whence comes the heat? The sun and all the planets would not have furnished fuel to maintain this molten mass at white heat for a tenth part of the ages that it must have been so. Besides, men have lived on the earth for thousands of years, even that many ages according to some authorities, and we know from this fact alone that the interior of the earth is not molten. Had that been a true theory, every vestige of life of all kinds, vegetable as well as animal, must have disappeared many years ago. What man must find, before he can solve the problems of nature, is a producer of heat without combustion—one that also con-

trols its product automatically, and maintains the right heat for all the needs of earth and her sister worlds, on each without reference to any other.

This, and the knowledge of how to use this mysterious force in the production of power, was the primary goal of Rev. Irl R. Hicks when he set out in scientific research. Weather or weather forecasts were not thought of until he discovered that in the making of weather changes, nature was using the very thing for which he sought. Then study of weather phenomena and their immediate causes entered into his work. Years before wireless messages were sent, it was discovered that in some mysterious manner, earth responded to certain observable activities on the sun, and that earth weather kept in tune with sun phenomena. Then he came out with his "Foundation Facts" in 1894, pointing out that the solar system is an immense electric plant, the sun being the dynamo, the planets the motors, all run by wireless impingements from the sun. Presto! The secret was out! The scientific world was slow to accept this solution, although all of the older theories had failed to answer thousands of questions which are made plain by this theory. We have been studying with reference to this claim of Rev. Hicks for thirty years, and we have not found a problem in astronomy or meteorology that cannot be worked out to a logical, practical conclusion by it. With this system of meteorologics, even earthquakes, heretofore so mysterious and incomprehensible, become mere matters of juxtaposition with sun and other planets, the higher temperature of earth's interior becomes one of relative potentials owing to the various angles and relative positions of sun and earth, and so forth with all the known phenomena appearing about us.

Warm or cool waves of wind move all about us. What constitutes the difference between them? Why is one section of atmosphere warm and another cool? It is not enough to say that these variable waves of atmosphere are responsible for weather changes, although this is undoubtedly true, generally speaking. But this is not bed-rock because there must be a cause still further back for the differences which produce weather changes. Nor is it enough to say that one section is warm and another cool. What constitutes warmth—coolness? Not how does each feel if you touch it, nor how does each affect other conditions or things? These are only surface skimming and get us nowhere. Men have used electricity for many years in various ways and for many purposes, but about all that is known of it is we know how it affects us if we get a shock, how certain appliances act under its influence, etc., etc. But these tell us nothing of the real electricity itself, its real substance, character, or cause. If a man can get no further back to causes than to know that weather changes follow atmospheric changes or changes of temperature, he is no more fitted to work out meteorological problems than a pullet is fitted to look after fourteen chickens. If mankind is to find the real sources of force, energy, power, he must throw all waterlogged theories away, because they only retard if not entirely prevent all progress. Men have become so accustomed to the terms of electrical lore, that the idea of "generating," that is, virtually "making" electricity has become a part of themselves and we cannot get away from these erroneous conceptions. But we must get away from them, or continue to flounder and get nowhere as man has done for centuries, because of erroneous conceptions, one or two of which we have mentioned. Man has not made, nor will he ever make a ma-

chine that can make electricity, for the very machine itself will be electrified—full of the very thing it is intended to produce. Each piece of iron or other materials, before being shaped for its place in the machine will be as full of electricity as when in its place in the machine, or connected by wires to a powerful dynamo. The earth, the atmosphere, everything about the machine or its builders owes its cognizable existence to the very **something** it is being built to manufacture. We can build machines that will "disturb," "agitate" nature's supply of electricity and cause a "current" or "line of agitation" but we cannot make an ion of electricity itself. In mechanics we know and recognize this "agitation" and call it electricity, but it is only the result of the movement of parts of our "agitating" machine. We must stop thinking of electricity as a material something that we can make with machinery, and recognize it as a part of the spiritual universe which God created "in the beginning" for we honestly believe in electricity only as spiritual, scoffs of many or any notwithstanding. The Ions of electrical science are only "ideas," "thoughts," mental conceptions of a million or more "points of energy" circling about one another, in a space too small to be even thought, smaller than the point of the finest cambric needle. Thought is the most ethereal manifastation cognizable to physical sense. Hence, whether we are right in our diagnosis of electricity, at least it is the nearest to pure "spirit" of anything we can even "think" of. As these "ions" are the materials out of which all material things are made, in the admission of the latest, up-to-date science, why not forget all that we usually call material things, and get into the realm of spirit, where the Creator exists and works, and seek for the beginnings of all things there, where they really do begin?

Instead of re-stating, we are pardonable if we quote from our article, The Basis Of The Four Seasons in the 1919 almanac re this subject:

"We must consider the universe as one great whole, a unit, set in order by one Creator and ruled by His power, which He imparts to matter more or less material (principally less), the one great whole methodized, vivified and manipulated by the one and only known force which we call electricity, but which as noted later on, is really **the life of Deity** imparted to substance which has become sufficiently materialized to be cognized by our physical senses, but which is cognizable to a far greater extent by our spiritual possibilities of discernment.

Had we time and space, we might attempt some scientific explanation of the source of electric force. So far as we know, no man has ever made a successful attempt in this direction. We use the force to light our streets and homes, to run our cars and machinery and carry our messages, but none seem to know or care to know the source of it, nor yet what it is. We talk of "generating" electricity, but how can we generate more when every part of creation, including what we usually call "solids" is already full of the mysterious something? Every particle of electric force that the universe will hold or can stand is already generated by the Creator, and is ready for our use, and we have been using it from the first inception of pre-natal life in us, and will continue to use it until we pass from this to the next phase of living existence, and will then continue to use it in its purely spiritual phase for prolonging eternal or immortal existence.

All about us is a pliant, transparent, sensitizing something which we call atmosphere or "ether." When near the earth it is loaded more or less with the various gases, dust, etc., from earth and her activities, but undoubtedly it becomes rarer and rarer the further out from earth it is, until it ultimately appears as what it really is, pure **Spirit.** All nature is equally dependent upon this mysterious something for life, yes, for existence in any form. Shut a man away from the ether and he will die in a few minutes. The same is true of vegetation or any other form of life. Why is this so? What gives this mysterious something its sensitizing, life giving quality? There is, there can be but one answer—ELECTRICITY—the one and only force known. Yet even this is not the **source** of force, power or energy—we must go still further back and inquire, What is this electricity, this energizing something which produces all the life, force and energy of which we are cognizant?

Simmered down to its last possible human analysis, electricity is purely mental, or, to be still more correct, SPIRITUAL. In the last explanation science has reached thus far, electricity is divided into "ions," mere points of electric energy, so small that millions of them in a bunch would be smaller than the point of a fine sewing needle, and these are conceived to be constantly whirling about each other, concentrating in time into the next larger conception of matter, "atoms" and these in turn to make up still larger parts of matter. Right at that point where the cause of force becomes purely mental in the "ion" we come to the point of contact between the purely spiritual and the material. What, then, is the only possible conclusion as to what electricity really is? Simply that it is THE LIFE OF GOD, and that what we call ether is the medium by which the Creator maintains His touch with the part (and a very small part) of His creation which has become sufficiently material to be cognized by our physical senses. Every reader should keep these great truths in mind, for although we write here no creed, nor outline any religious tenets, we still stand upon the sure foundation of one all-intelligent, all-powerful, all-wise Creator, whose hand (figuratively speaking) holds all in perfect control, and moves the universe to do His will.

It is with such a force-cause the meteorologist has to deal. We have nothing to do with a mythological force which works by hap-hazard, slipshod habits, and that therefore must be watched closely in the vain effort to detect beforehand what the next whimsical move may be. We sometimes speak of "mechanical law," the rule which governs the building and operations of any successful machine. There is such a law, such a set of principles, or preferably, such a principle, which rules in every phase of nature, in weather matters as well as in the mechanics, physiology or psychology of men. We do not believe that anything comes to pass in nature, except in perfect conformity to this law of mechanics. Its different phases and applications are legion, but all under one universal application of one principle, carried into effect through one force-cause—electricity. This is but a name, however, given to a hitherto little understood substance but this name serves the purpose as well as any other name could."

Thus is explained our conception of the cause with which man must deal when searching for and utilizing "power without fuel." The real power is all about us, not only within the earth's interior but in the atmosphere, water,

even the rocks of the earth are full of it, Whenever man finds how to capture it and harness it, power will be available for all purposes. Twenty-five years ago we stated in Word and Works that the time would come when, if the housewife wanted a piece of ice, she would place a can of water in the chamber of the ice machine, turn on the current and have ice in a few minutes. We were scoffed at for our pains, but who dares deny our prophecy today? Such machines are on the market, available for any who will buy and use them.

We also wrote at the same time that there were no doubt people living who would see all the wires pulled down, for there would be no further use for them, and that all our homes would be warmed and our cooking be done by wireless. We stated that we believed that autos would be running about the country by wireless, that railway trains would use the same power, etc., etc. Some may still scoff at this, but some of the things we wrote of are actual facts today, and it is but a step from the cumbersome methods to the newer, better use of universal power.

Some years ago, soon after our article appeared in Word and Works, (whether in any way connected with our article or not we cannot say and do not even speculate) an illustrated article appeared in a St. Louis paper, suggesting a great magnet several hundred feet in height and of necessary proportions, isolated from the ground and attached to the necessary machinery connections. Its purpose was to draw from the atmosphere electric power for any purpose. A picture of such a magnet appeared, overtopping sky-scrapers in the background. But people read the article, laughed at the writer, and—probably forgot it and him. It did look wild, especially to anyone who still clung to old worn out theories and customs of thinking. But we stated at that time that this huge magnet idea was the biggest thought of the generation, the most advanced suggestion we had seen—and it was. It was no doubt nearer the actual solution of the great problem of natural and universal power than had been presented. It was crude, yes, so are most new, big ideas, and the whole thing looked very simple of accomplishment. No man can say just how simple the final solution will be, but most great discoveries astonish men by the simplicity of nature's workings. So will the final solution of universal power be simple, when it has been found out and mastered. But so long as men keep on trying to work the harness without the horse, so long will real advancement be delayed. Men are not satisfied with an old fashioned ox-cart today, but as long as they were satisfied with it, there was little improvement. We may wonder how people got along at all with the crude appliances of a century or two ago—just so people of a century or so in the future will laugh at our crude contrivances of today, with their masses of wires, their consumption of costly fuel, and the merely endurable results as we know them.

If the reader cares to follow out what we have still to say, he must, as we have suggested, forget all old ideas that have failed to reveal the source of power, and seek with us, a logical solution of some of the problems with which the meteorologist must deal. These are many in number and intricate in detail, but they must be met before one can foretell weather with any degree of accuracy or value. Weather forecasts in the Hicks Almanac have been verified to an accuracy of about 90% year by year, although they have been written mostly a full year in advance. This paragraph is written June 30th, 1920, but

the weather forecasts for 1921 have been ready for the printer some months. The forecasts of past years and those for next year have been prepared with the principles we have stated heretofore in this article as the basis of calculation.

People who composed the earlier civilizations of the earth, so far as we know of them, realized that they were dependent upon the sun for their sustenance and even their very lives. It is not strange, therefore, that the sun was early an object of worship, and that in their mistaken ideas of Deity, and what was required of man, great temples were built for such worship.

Later developments in research and experience have improved upon this early idea of God, and man's conceptions of the Creator have changed to a large extent. But the race is still ignorant of the highest, best conceptions of God, and many peoples are still dependent upon some material object or conception to keep in mind the recognition of a Creator as an object of worship.

In some lands, either the sun or some attribute of the sun is still worshipped. The fire worshippers are an example of the latter. Even in our own land, faulty concepts of Deity are most common, and in the contemplation of these faulty concepts men are too likely to lose sight of the real object of worship, and see only the object which represents their ideal. "God is spirit" said Jesus, a concept hard to fix in mind, hence the concept of man in our Christian land is of a larger, wiser, more powerful man, who takes the place of the Spiritual God he represents, and leads to many faults in doctrine and worship.

It is strange that even when the most of one's life has been given to a study of some particular part of creation, where little can be known definitely, as with the sun, for instance, few ever rise above the realm of material effects and appearances. Isabel M. Lewis of the United States Naval Observatory, is reported as saying in a recent article, "For millions of years, the sun has been pouring forth its light and heat giving rays at a most prodigal rate, without the slightest sign of decreasing strength."

This is evidently in accord with the commonly accepted idea that light and heat are emanations directly from the sun, which in turn is supposed to be a hot, luminous body. This in turn calls for combustion, this for fuel, etc., etc. Thus so-called science runs itself into illogical problems, which it cannot solve. How much more scientific would it be to accept the teachings of Prof. Hicks, that the solar system is a great electric plant, with the sun as the central dynamo, from which electric impingements fly out through the system for the use of the planets (motors) of the system.

Or, again, what we have claimed and taught for several years, that the sun is more apparently a "transformer" of electro-magnetic energy which comes into the system from outer stellar space, and is fitted by the sun's activities for the needs of the several planets. This requires that we consider that stellar space is also a **polarized space,** having its positive and negative poles, thus accounting for the earth's poles always holding the same direction in space, on whichever side of the sun Earth may be. Thus at one stroke we do away with the necessity for unthinkable billions of tons of fuel, with which to keep the sun's furnace at work, and accept a theory that is logical, potent to explain all the various phenomena of Earth activities. We have many evidences of something very like electric energy in the atmosphere about us, which cannot

be explained by any of the old theories, but which are made plain and logical by these evidences.

Wireless telegraphy depends upon an atmosphere **saturated** with electro-magnetic force. Our theory supplies that force in a logical, scientific manner. Earth and sea are saturated with the same electro-magnetic force, proven by telegraphy through earth or water currents and telephonic communications through the water from vessel to vessel. Many phenomena otherwise unexplainable are attributed to electricity in the atmosphere. Then when we accept as truth the fact that we do not and cannot "generate" electricity at all, that we only "agitate" it **where it already exists,** almost if not every problem of the solar system becomes one of easy solution.

But science must forget the hot-luminous-sun-theory, the molten interior of the earth, the necessity for fuel for these eternal earth-interior-fires, and substitute a reasonable, scientific, available theory that will explain according to known electro-mechanical laws, the many things that are explainable by no other theory.

We have denied the theory that the interior of the earth is molten materials. We have given several reasons why that theory is silly, illogical and untenable. Probably readers will ask, "How then, do you account for the increased temperatures as we go down into the earth." If the earth were a dead body, uninhabitable as astronomers claim the moon is now and as some of the planets seem to be also, there would probably be no increase of temperature, for the reason that the valency of the planet would have died out, in which case all life, vegetable or animal would also disappear quickly. We must remember that the earth is not a dead thing—it is full of the life of God as noted before, and its regular throbs of life and change might be likened to real breathing, except that it breathes a living, unchanging mysterious something of which air or atmosphere is merely a product, a result. Think of the earth as a motor, being moved in all its activities and changes by nature's supply of electirc energy, supplied by wireless from the sun, the great dynamo of the solar system, or as we have sometimes thought, the great **transformer** of force sent into the system from outer stellar space. When a motor is cut off from the electric supply, it remains cold and useless. When the current is turned on, the motor becomes a thing of life, so to speak, it throbs with motion and heats internally, even though the weather be at zero in temperature. Here we have the best illustration of the earth. Think of it as a motor, into which electric impingements are being constantly forced by the central body of the system, and which runs on normally as long as the current is normal. If anything goes wrong with the current, or with any part of the motor, the motor responds to conditions and acts (or fails to act) accordingly. When it is found that some part of the motor becomes over-heated the machinist lookes for a broken wire in the winding, or anything that might cause a short circuit. If he finds it and repairs it, the motor runs normally again. Sometimes one part of the motor becomes hot enough to further damage the motor. Here we have some of earth's problems in mineature. Earth is made up of many kinds of materials, some valent, some almost without valency, woven together about and through in strata of varying thicknesses. Into this mass of "wires" as we may call these strata, is pouring a constant, but ever varying current of electric energy from

the sun. This current is being constantly disturbed by the nearness of other planets (motors also) or by the line of impingement being broken by the passage of other planets between earth and sun. Let these two disturbing causes stand for a multitude which we have not time or space to name here. Suppose that at the near approach of another planet (motor) the electro-magnetic potentials within the earth become agitated and rush to one side or the other, dashing here and there along the lines of strata, clashing here and there in a "short circuit" causing earth tremors in various parts, (undoubtedly the correct solution of quakes and tremors). But while all this is going on, some parts of the earth become abnormally heated while the less intensity of the currents in other parts allow these parts to cool. Imagine such "goings on" within the earth as constant, with ever varying intensities and portions of the earth. If you can form this picture in your mind, you need not wonder that earth indulges in a "shake" in some particular part, or in tremors for other parts. Almost any phenomena of earth, exterior or interior, or of earth's atmosphere can be logically figured out by this "electric plant" theory, while we can defy any man to explain a thousand earth phenomena by any other system we have ever heard of.

Take again, a kitchen range for an illustration. It is so constructed that the current runs into, but finds no outlet from certain parts. These parts heat, and cook your food. It is heat without fuel, ust what man can and must find if civilization is not to suffer and die out. Here at the heating part of the electric range is a volcano, or a hot spring, or a point in earth's "earthquake" belt, where quakes break out frequently, because of the materials and construction of the earth at that point, and, if moisture be present, we have the mud hot and cook your food. It is heat without fuel, just what man can and must find if earth happens to be at a different angle to the approaching disturber, currents run in other directions, potentials are formed at other points, short circuits occur in other parts, hence the quake or tremor appears in a different zone or belt. If the disturber is moon crossing the equator, tremors or quakes are likely to be in regions near the equator. If some other planetary factor is the disturber, with moon at north or south of the equator results will vary in character and location according to moon's position to some extent. The point of moon's potential within earth's body or its atmosphere will also determine to some extent the point of quakes or tremors. If at perigee, (nearest the earth), the focus or potential may run out into the atmosphere at the **opposite** side of the earth, and result in severe storms on that side of the earth, and no quakes may appear. If at apogee (farthest from the earth), the potential or focus may strike near the center of the earth, and scattering quakes in different parts of the earth result. Or, if the potential is near the surface of the earth results may be looked for accordingly in local but more intense tremors or quakes.

Hence it will be seen that no one can tell just where on the earth quakes may develop, for earth turns daily on its axis, and the relation of any particular section on its surface changes from one side to the other in twelve hours, and the exact hour of the day cannot as yet be figured as to when the "flash" or "shock" of **the short circuit** will be in evidence. We often speak of this in connection with predictions of quakes.

Earth's temperatures are modified to some extent by the relative motions of earth and moon. We have often explained this when discussing the planting of seed at different points of moon's phases. Near moon's last quarter, earth and moon change their relative speeds, earth speeding up like a motor when the current is turned off, moon slowing down as though a load had been turned on. During this relative movement, earth cools **internally** until first quarter is reached, when the relative movements or speeds are again reversed, earth slows down as though with a load, and heats **internally** until last quarter is again reached. Hence, plant your root crops, potatoes, beets, carrots, etc., when the ground is cool, when germination will be slow and root development greater. Plant your wheat, corn and all top crops when the ground is warmest, when germination will be swift and top growth more prolific.

As pretty well explained in the article in the 1919 almanac, the different planets (motors) of the solar system are moving about the sun (dynamo or transformer) moved and controlled by the wireless impingements from the sun, hence it is easy to suppose that, as they move at different speeds from each, they will pass each other more or less in line or otherwise, according to the different portions of their circuits or revolutions about the sun. They move mostly in a general plane, called the plane of the ecliptic, or general path of the planets through space. But still their paths vary to some extent, which will cause changes in the relative angles as they approach, pass or leave each other behind. Mercury is the most eccentric of all, hence his angles change constantly, each change of Mercury or any other causing changes in both earth and its atmosphere, speaking of electro-magnetic conditions and results. Moon is frequently "in conjunction," that is passing between earth and other planets, crossing the lines of force plying all through the system, from sun to planets and from planet to planet, every such "conjunction" or passage having an influence upon electro-magnetic conditions within the earth or its atmosphere, changing the points of potential, the intensity voltage of the impingement and the ampherage of the potential points, or points of most direct contact. Every such change, brought about by the thousands of planetary movements and relative angles and distances from each other, has its peculiar effect upon earth weather.

We say "peculiar" advisedly, for the changes due to different planets have, for each, its own certain results in weather conditions. We believe that one reason for this is that each planet is electrified, hence magnetized at a **different standard** potential or quality of magnetic or electrical from any other. Either this, or a different kind of electricity is developed within and at the surface of each planet. The temperatures of them vary with each planet. We cannot prove this but we do know that the presence, (for instance of Venus) as a disturber, produces most of the sudden and intense thunderstorms, hail, etc., while Mercury's influence produces most of the dense cloudiness, wet snow-fall and sleet. All these and thousands of other variations are characteristic of the differing planetary configurations. This latter we know,—whether as we have suggested, each planet carries with it a peculiar kind or character of electro-magnetism, or whether the differing phenomena must be laid at some other cause, none can say as yet. We know the effect and the source, at least, of its cause, the exact nature of the cause we cannot define. If, as we suggest, the planets vary as to

electrification and magnetization, their "polarization" varies also, hence practically all climatic conditions vary in proportion. This would include temperatures of the different planets. Another factor in climatic differences is the "valency" of each planet, which would govern the degrees and proportions of electro-magnetic conditions, hence the general temperatures. Mercury is nearest the sun, hence astronomers have supposed that it is so hot on Mercury that people could not live there at all. But Mercury may nevertheless be the coldest of all the planets. Neptune, farthest from the sun may be the hottest. It is a matter of "valency", that is, of susceptibility to electro-magnetic influences. If the "ball-of-fire" therefore "hot" sun theory is correct, we may be wrong, but if we are correct, (and any reader must admit that we can explain a thousand things by our theory that cannot be explained by any other known theory) it is easy to see how far wrong the "old theorists" must be in many of their conclusions.

Scientific men have discussed at great length the matter of the size of inhabitants of other planets on the basis of size or volume of the planets, also of weights on other planets in comparison with weights on the earth. The only basis for either is the valency of the planet as a whole, because weight of articles is a matter of both the valency of the earth itself, also of the article of itself. The "pull" of a magnet is a question of its magnetization, that is, polarization. What is called magnetism in a magnet is called **gravity** in the earth. Weight is simply the pull of this magnetism or gravity, which is not absolutely uniform at all times.

Every point we have mentioned or discussed has its bearing upon the title of this article, Power For All Purposes. We have outlined some of the uses, and, as far as possible, methods of nature's utilization of this universal power. It is all about us, in the atmosphere, in the solid body of the earth, in the impingements from the sun, in the innumerable combinations developed when any two or more phases of this power meet and mingle, but it remains for man's genius to harness it and use it in every phase of human need. Make-shifts will answer for a time, but they are expensive, while the real soultion of the problem will reduce the cost to a minimum if not to nil. It is entirely conceivable that man can build induction plants that can take up or into themselves abundant of this universal power-cause, to furnish all the needs of civilization with its numerous enterprises, practically without cost of fuel or other running needs.

But this will never be done until man has **unlearned** most that has been supposedly learned, but which has in fact been simply rubbish piled in the way of all development and progress. Nine tenths of it is mere rubbish, useless in that it gets us nowhere, solves no problems, and prevents real progress in working out nature's secrets. If scientific men would throw away the old, worthless things in so-called science, and work along known logical and practical lines independently of what is worthless, the great problem of "Power Without Fuel" would soon be solved.

SOME TERMS EXPLAINED.

We try to eliminate all technical terms so far as possible, but in a work of this kind we cannot get along without some of them as they have a place in astromony and nowhere else, and no other terms will fill the place. Below we explain some of these terms which are unavoidable in our work. We do not attempt technical explanations as these would not be understood any better than the terms themselves. Most of the words are defined in any good dictionary. Our explanations apply only to our use of terms in our meteorological work and writing.

Apogee—Moon at her point farthest from Earth for the month.

Aphelion—Farthest point from the sun of any planet in its orbit.

Conjunction—When celestial bodies are seen in a straight line or nearly so. May be any two or more bodies. Conjunctions are **inferior** when the body is between earth and sun and **superior** when opposite the earth. Only Mercury and Venus can pass at inferior conjunction.

Configurations—Literally, groupings—any grouping of celestial bodies.

Constellations—Various groups of stars recognized, outlined and named in early ages. They assist in mapping space, in recognizing the positions of planets in space, and in astronomical work.

Day—If civil, is measured from midnight to midnight. If astronomical, is measured from noon to noon. See measurement of time in this book.

Declination—The position of a celestial body north or south of the equator.

Earthquake—An electro-magnetic quivering, trembling or shaking of the earth under certain strains, sometimes with upheavals.

Equator—A line about sun or a planet equi-distant from its poles.

Equator—Terrestrial, having reference to earth's geographical equator.

Equator—Celestial, having reference to the extension of earth's equator into space indefinitely.

Equinox—Meaning when the equator of a body is directly under the sun so that sunshine is equal in both hemispheres.

Elongation—Position of a body east or west from a given point.

Latitude—Points north or south of earth's equator.

Longitude—Points east or west along or parallel with earth's equator.

Old Boreas—A fanciful nickname for wind, especially north or cold winds.

Opposition—When bodies are at opposite sides of another body.

Poles—Geographical, the two opposite points of north and south on the earth's surface. They are inclined about 23½% to earth's orbit and at right angles to its rotation on its axis.

Poles—Magnetic, the opposite potential points of earth's polarization. (Not identical as to character or place with the geographical poles.)

Polarization—Literally a degree of magnetization sufficient to make of a body a magnet such as the earth or any other magnet.

Perihelion—The point when a planet is nearest the sun in its orbit.

Perigee—Moon at its nearest point to earth for the month.

Precipitation—Literally, rain or snow fall.

Potential—The polar points of magnetized matter or bodies. Where the focus of electro-magnetic impingement is most potent.

Quadrature—(Of Jupiter, for instance)—that point where, if the angle of a square were laid on the center of the sun and one extension on the earth, the other extension would lie on Jupiter.

Signs—Of the Zodiac—certain divisions of the stellar space through which earth passes in passing around the sun.

Seismic—Literally, "shake" or "shaking" that is, earthquake phenomena or pertaining to such.

Stationary—That point in the orbit of a planet when it seems to stand still, because moving toward or away from the earth.

Solstice—The two points midway between the equinoctial points , that is, the longest and shortest days of the year, June 21st and December 21st.

Storm Period—The period required for low areas to pass across the country—From three to five days.

A RELIABLE BAROMETER.

It seems to be the general opinion in most of the homes of the land that a phonograph or a grafanola or a player-piano are any of them of far more importance in the home than a barometer or even a whole set of meteorological instruments. But as a metter of fact, any family could be happier by far with a good barometer, even though all music had to be left out of the home. This latter is not often necessary however. The cost of a good barometer is comparatively small, and the instrrument will last a lifetime if properly treated. Music may brighten the life, but the barometer may save life. Hundreds owe to a barometer the fact that they are alive today. When a dangerous storm is swooping down upon the home, music hath not even charms, but a barometer proves itself a true friend by giving warning hours beforehand that danger is near.

Very naturally Rev. Irl R. Hicks, the pioneer of long range weather forecasting, made a study of the barometer and its uses, and spent time and money in an effort to find the best, most reliable barometer, at a price that would place it within the reach of the average home. There are two kinds of barometers, the standard Mercury, a high priced instrument, and the Aneroid, which can be made and sold for a few dollars. This barometer consists of a small metal vacuum chamber, to which is attached the necessary levers and fulcrums to move the dial hand with every change of pressure of the vacuum chamber.

Although it is a very sensitive instrument, it is made of metal and will stand any reasonable handling or treatment and last for many years. We have one that has never been out of order for twenty years of service and is just as accurate as ever. It records faithfully hours beforehand any change of weather conditions toward storminess, and no dangerous storm area can get by it within a hundred miles without a record being made. Its records are so simple that a child can learn to read and understand them as easily as to read a clock.

The principle of the barometer's warning is this: During the days we designate as a storm period, areas of low pressure pass across the country from west to east, the barometer recording the changing pressures accordingly. As a low area approaches from the west, the barometer hand falls back to the left and as the low area passes to eastward, the barometer hand rises again toward the right. This record is made by the instrument whether the area really passes directly over it, or away to one side, often recording a low pressure that is a hundred miles away, if the area is very low.

Many people, especially women and children are very nervous when a great black cloud comes up in the west, and it must be admitted that they do sometimes look really terrifying. But if there is any danger at all, a good barometer will give due warning, and if there is no danger, the barometer will ignore the coming storm entirely. In this latter case one may rest perfectly easy knowing that he is safe. As a comforter for the nervous mother and her children the instrument is well worth its cost. But it also renders a valuable service when real danger lurks in a coming storm.

While all that we have stated of the barometer is true, still it must not be supposed that this is a "rain glass" that will tell when rain is likely. Sometimes a very low area will pass with but little rain, but usually strong winds make up for the little rain. Sometimes it may rain for hours, a steady, normal rain,

while the barometer takes no notice whatever of it. Again, the barometer may fall very low and the area pass without rain. Therefore, we must have some other instrument to tell us when rain is likely. This is where

A RELIABLE HYGROMETER.

Finds its place and usefulness. We have three styles and prices of these useful instruments. One is the German style, three inches in diameter, nickeled case, Dry Coil fibre covered, attached to a needle and post by which the humidity of the atmosphere is registered. This is a very good cheap hygrometer, and sells at $4.00. The next is a wet and dry bulb instrument, made after the well-known Mason Hygrometer, and hangs on the wall. It is reliable, made by one of the largest manufacturers in this country, and sells for $7.00. Our **best of all** is the genuine Mason hygrometer, wet and dry bulb style, mounted on a metal stand, and is made entirely of metal and glass. This is the best on the market and sells for $11.00. We experience some difficulty in keeping instruments on hand but can usually furnish them without much delay. The hygrometer is the nearest to a "rain glass" that has been invented, and with it you can tell nearly when rain may be expected, several hours in advance. Neither of the instruments described records temperature, which needs to be known in weather prognostication, for such instruments are each made for **a certain purpose,** and no other. Therefore we need

A FIRST CLASS THERMOMETER.

To record the temperatures, which have so much to do with weather changes. For this work we offer a fine, enamelled face instrument made expressly for us. It is porcelain face plate, every degree etched in the material, all metal parts finely nickeled and has the name "Word and Works" also etched in the face—and we are not ashamed to have it there. This instrument was designed by us, and made expressly for us. Its equal sells for a much higher price than we ask, but we want our customers to have the best, hence keep our profits as low as possible for their benefit. We are always glad to answer any who write about these instruments. Inquiries and orders should be addressed to THE HICKS ALMANAC AND PUBLISHING COMPANY.

GROUNDHOG DAY.

Just how long February 2nd has been considered an important point in weather matters, we cannot say, for we have never taken the time to look the subject up. It is true, however, that thousands have some kind of an idea or belief or superstition that there is truth in the claims that coming weather for some weeks depends upon whether the sun shines on February 2nd. The claims for Candlemas day amount to that and nothing more. The claims clash however, and no one seems to know just who is right. One claims that if the groundhog comes out on February 2nd, (does he really come out on that particular day) and sees his shadow, he will go back and remain in his den for six weeks more of winter. But if he cannot see his shadow, he stays out, for spring is at hand. Others claim just the opposite, so far as the results go. An old Scotch couplet has it:

If Candlemas Day be bright and fair,
A half of the winter's gone and mair,

and another has it:

If Candlemas Day be dark and glum,
A half of the winter's yet to come.

English, Scotch, German and other peoples have these same ideas in one form or another. To anyone scientifically inclined, to suppose that cloudiness or sunshine for a single day will govern weather for weeks to come is a mere superstition. There is, however, a substantial reason for consulting "signs" at about this time for information as to probabilities of an early or late spring.

Earth is just passing through the 45 degree angle, that is, the electrical belt, the opposite of July-August conditions, and is moving steadily forward toward meteorological spring time. General weather conditions at this time will foretell something about near-future probabilities, but there is no reason for picking on one definite day for every year as a criterion of future conditions. By watching the progress of winter thus far, and general conditions, we may deduct with some degree of certainty whether spring will break in early or late. That is about all there is in the legend, superstition or scientific fact, which ever we select as our oracle individually.

MEASUREMENTS OF TIME.

There are in use three different kinds of time, True Solar time, Mean Solar time and Sidereal time.

True Solar time is measured by the diurnal motion of the Sun, the length of the day being the interval between two successive transits of the Sun over the same meridian. Clocks and chronometers cannot be regulated by this time as it is not constant, owing to the obliquity of the ecliptic and lack of uniformity of the motion of the Earth in its orbit.

Mean Solar Time is measured by the motion of a fictitious body called the Mean Sun, which is supposed to move uniformly in the celestial equator. Since Mean Solar time is uniform and regular in its passage, clocks and chronometers can be regulated by it and are usually so regulated.

Sidereal time or Star time, in general terms, is measured by the diurnal motion of the fixed stars. Astronomical clocks regulated to Sidereal time are called Sidereal clocks. A Sidereal day is very nearly the length of time in which the Earth rotates on its axis about March 23d, (civil date) that is, about two days after the vernal equinox, when there is an instant when a Sidereal clock and a Mean time clock show the same time.

The Civil day begins at midnight and comprises 24 hours, the hours being counted from 0 to 12, in two series, the first marked A. M., the second marked P. M., that is, from midnight to noon all hours are A. M. and from noon to midnight, P. M.

The Astronomical day begins at noon on the Civil day of the same date, the hours being counted from 0 to 24, running from noon of one day to noon of the next day.

Hence, to convert civil time into astronomical time: If the civil time is marked A. M., take one from the day and add 12 to the hours. If the civil time is marked P. M., take away the designation P. M. Thus Jan. 9, 2 o'clock A. M., civil time, is Jan. 8, 14th hour, astronomical time; Jan. 9, 2 o'clock P. M., civil time, is Jan. 9, 2nd hour, astronomical time.

To convert astronomical time into civil time; If the astronomical time is less than 12 hours, write P. M. after it; if greater than 12 hours, subtract 12 hours from it, mark the result A. M. and add one to the day.

OUR LAST WORD.

This last word for the 1921 Hicks Weather Book is written November 11th, P. M., 1920. We send the book out with confidence that it will maintain the enviable record of past issues. May success attend, and God's blessing rest upon our friends and patrons.

JOHN B. NOYES.

$1 Package FREE

To Every Poultry Raiser

A full sized package of the same famous tonic that has increased the egg production of thousands of poultry raisers will be sent to you without one cent cost.

38 HENS--1855 EGGS

MAK-EM-LAY Tonic is a highly concentrated all pure medicine—a famous formula that has made unfigurable profits for poultry raisers throughout America. It is a time tested and proven egg producer—a tonic that has made the ordinary workless drone of the barnyard lay more and more eggs. Read the proofs and then read our big, FREE MAK-EM-LAY offer.

Mr. W. J. Bien of Belleville, Ill., writes: We were getting no eggs from 38 hens when we began using MAK-EM-LAY. The next three months in the dead of winter, snow and ice on the ground and below zero we got 1855 eggs. Some days we got as many as 37 eggs.

Mrs. Georgie L. Forgus of Creve Coeur, Mo., writes: When I used my first package the last week in December, I was not getting any eggs. In January I got 201 eggs from 14 pullets and 5 hens. Yesterday I got 15 eggs from these 19 hens and pullets.

So positive are we that our famous MAK-EM-LAY Tonic will make your hens lay more and more eggs that we are making this most liberal, FREE trial offer to you. Years of experience and countless testimonials from successful poultry raisers have proven beyond the shadow of a doubt that MAK-EM-LAY can increase over and over again the number of eggs from every hustling hen in your yard. In order to get you to try this famous MAK-EM-LAY formula in order that you, too, may know the great egg producing power of this proven tonic we are offering you a full size $1.00 package absolutely FREE; we want you to use it according to directions and prove to your own satisfaction its wonderful egg producing powers. Read this big offer without fail and mail the coupon.

This Coupon is Worth $1.00 to You!

Tear It Out

SEND NO MONEY

Fill in the coupon and mail to us at once. Don't send any money. The day we receive the FREE-offer coupon from you we will send two full sized packages of our famous MAK-EM-LAY Tonic all you need do is to pay the postman $1 for one package. The other is yours absolutely FREE. This offer may be withdrawn at any time, so mail in your order at once. Put the famous MAK-EM-LAY Tonic to work for you. Help your hens, don't hinder them. Keep them laying at top speed when prices are highest. Take advantage of this great offer. Remember! Our $10,000 bank guarantee goes with each order. Tear out, sign and mail the coupon now.

BLUE RIBBON REMEDY CO.,
113 Market St.,
St. Louis, U. S. A.

Blue Ribbon Remedy Co.,
113 Market St.,
St. Louis, U. S. A.

Gentlemen—Send me two full sized $1.00 packages of the famous MAK-EM-LAY Tonic. It is understood that I am to pay the postman upon delivery only $1 for one package and the second package is given to me absolutely FREE. If I am not satisfied in every way you agree to refund the $1 to me at any time within thirty days. Also send me your $10,000 bank guarantee.

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THE SHORT ROAD TO HEALTH

THE GREATEST ADVANCE IN MEDICAL SCIENCE.

An External Application has been made which has the power of drawing out from the sytem the Germs and Poisons which are the cause of Disease. These Poisons, if left in the System, cause pain and inflame and destroy the tissues of the body.

THE ABSORBENT COMPRESSES are being mostly sold to the Physicians who are reporting the most wonderful cures. They are painless, harmless and drugless and can be used by any person with just as good results as when applied by the best doctors. Thousands of persons who have been given up by the doctors as incurable have been cured by the Absorbent Compresses.

It goes without saying that if cases like the following can be cured any ordinary cases will respond to the treatment. This sworn testimony was taken in a Government Investigation.

I was confined to my bed for more than ten years with terrible suffering and was under the treatment of the best physicians but only got worse. When my condition was pronounced beyond all hope I used the Absorbent Compresses. All suffering ceased at once and the deadly poisons were drawn from my body. I made a quick recovery and gained more than forty pounds. I took no other remedy and know that the Compresses cured me. I am now in perfect health.

Mrs. Joseph Dorsey, Syracuse, N. Y.
Sworn before H. H. Farmer,
U. S. Commissioner.

A CASE OF INFLAMMATION OF THE STOMACH.

My daughter was an invalid for years with Inflammation of the Stomach and Bowels. She wasted away until she weighed only eighteen pounds. One morning our doctor told us she could live only three or four hours, and advised us to try the Absorbent Compresses. They seemed to give her new life and she began eating. She gained in flesh until she now weighs 85 pounds. The saving of her life was due to the use of the Absorbent Compresses.

Mrs. Charles C. Kallusch, Chicago, Ill.

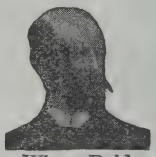
When your doctors have failed to cure use the ABSORBENT COMPRESSES. Our Free Book is a medical education on the new lines. Send for it. Send us a description of your case and we will tell you just what results you may expect from the use of the Absorbent Compresses. Address:

ABSORBENT COMPRESS CO.,
94 Wisner Block, Rochester, N. Y.

Baldness Conquered

RECIPE MAILED FREE

A veteran business man, who was almost completely bald and had tried numerous tonics, lotions, shampoos, etc., without benefit came across, while on a journey an Indians' recipe by which he grew a complete crop of healthy, luxuriant hair that he now possesses.



When Bald

Others—men and women—have reported remarkable hair growth by the same method. Whoever wishes the recipe may obtain it free by writing to John Hart Brittain, BA-160, Station F, New York, N. Y.

INDIANS' SECRET OF HAIR GROWTH

In a vast number of cases, when hair falls out, the roots are not dead, but remain imbedded in the scalp, alive, like seeds or bulbs, needing only fertility. The usual hair tonics, etc., are of no avail in such cases. The Indians' method is purposed to nourish the hair and stimulate the growth.

Wonderful results reported. For men's, women's and children's hair. If you are bald, or losing hair, or have dandruff, you should get the recipe. It is a pleasure to observe the starting of new hair and its steady increase until a prolific growth supersedes thin hair or baldness. Cut out this notice; show to others who want beautiful hair. The recipe is free. This is genuine.

Hair Grown

PARKER'S HAIR BALSAM
Removes Dandruff—Stops Hair Falling
Restores Color and Beauty to Gray and Faded Hair.
60c. and $1.00 at Druggists.
Hiscox Chem. Wks. Patchogue, N. Y.

HEAVEN AND HELL

Swedenborg's great work, 400 pages, 15 cents postpaid. Pastor Landenberger, Windsor Place, St. Louis, Mo.

CRUEL PILES

Dr. Van Vleck Found Genuine Relief Which Is Healing Thousands

Send Postal for Dollar Trial FREE

To anyone suffering from Piles we make this unlimited offer: Send us

your address and return mail will bring you a regular Dollar Package of Dr. Van Vleck's 3-fold Absorption Treatment for Itching, Bleeding, Protruding Piles, and such Pile trouble—all in plain wrapper—**TO TRY FREE.** Dr. Van Vleck, ex-surgeon U. S. Army, spent forty years perfecting his new world famous Absorption Method. No knife, no pain, no doctor bills—just a simple home treatment that can be tried by anyone without cost. Then, after trying, if you are fully satisfied with the relief and comfort it gives you, send us One Dollar. If not, it costs you nothing. You decide and we take your word. We don't know how we could show more unbounded faith in our remedy. It is relieving almost every stage and condition of Itching, Bleeding, Protruding Piles, even after whole lifetimes of misery. We have received hundreds of letters telling of the success of this remarkably effective system after everything else, including costly and dangerous operations, had failed, even after 30 and 40 years of suffering. The milder cases are often controlled in a single day. Won't you try it at our expense? Address Dr. Van Vleck Co., Dept. H. O. 21, Jackson, Mich. Send no money. Send today.

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If you have tried most everything else, come to us. Where others fail is where we have our greatest success. Send attached coupon today and we will send

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We send on trial to prove what we say is true. You are the judge and once having seen our illustrated book and read it you will be as enthusiastic as our hundreds of patients whose letters you can also read. Fill out free coupon below and mail today. It's well worth your time whether you try our Appliance or not.

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Please send me by mail, in plain wrapper, your illustrated book and full information about your Appliance for the cure of rupture.

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"End Your Rheumatism

Like I Did Mine"---Says Pastor Reed Wife Also Rid of Neuritis

Suffered Tortures For Years---Now Telling Good News to Others!

"Don't Believe That Old Humbug About 'Uric Acid' Being the Cause of Rheumatism—It's Not So!"

Emphatically asserting that thousands of unfortunate sufferers have been led into taking wrong treatments under the old and false belief that 'Uric Acid' causes rheumatism, Pastor H. W. Reed says:

"As do some of our highest medical authorities, I now know that 'Uric Acid' never did and never will cause rheumatism! But it took me many years to find out this truth. I learned how to get rid of my rheumatism and recover my health and strength, through reading 'The Inner Mysteries of Rheumatism,' a work written by an authority who has scientifically studied the cause and treatment of rheumatism for over twenty years. It was indeed a veritable revelation!

"I had suffered agony for years from rheumatism and associated disorders, and Mrs. Reed was tortured with the demon neuritis almost beyond endurance. We had read and talked so much about 'Uric Acid' that our minds seemed poisoned. But the 'Inner Mysteries of Rheumatism' made it all clear to us and now we are both free from the suffering and misery we endured so many years. I believe I was the hardest man in the world to convert! For me to discard the old 'Uric Acid' theory, and what I now know to be absolutely false, for the new, scientific understanding of the cause and cure of rheumatism, was like asking me to change my religious beliefs! But I did change, and it was a fortunate day for me and mine when I did so."

NOTE: The Inner Mysteries of Rheumatism referred to above by Pastor Reed lays bare facts about rheumatism and its associated disorders overlooked by doctors and scientists for centuries past. It is a work that should be in the hands of every man or woman who has the slightest symptoms of rheumatism, neuritis, lumbago or gout. Any reader of Hicks Almanac who sends name and address to the author below, will receive it by mail, postage paid and absolutely free. Send now unless you forget the address! If not a sufferer, cut out Pastor Reed's explanation and hand it to some afflicted friend. For copy of the "Inner Mysteries of Rheumatism," send post card or letter only to H. P. Clearwater, 815-B Street, Hallowell, Maine.

TRUSS WEARING CONDEMNED

Mere Mechanical Support Does Not Cure—Binding Pressure Declared Harmful.

At best, the truss is only a makeshift—a false prop against a collapsing wall—and cannot be expected to act as more than a mere mechanical support. The binding pressure retards blood circulation, thus robbing the weakened muscles of that which they need most—nourishment.

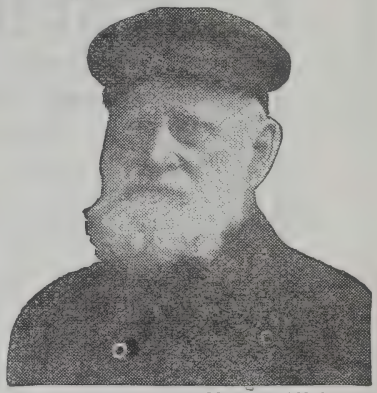
But science has found a way, and every truss sufferer in the land is invited to make a FREE test right in the privacy of their own home. STUART'S ADHESIF PLAPAO-PAD is unquestionably the most scientific, logical and successful self-treatment for rupture the world has ever known. Soft as velvet—easy to apply—inexpensive. To be used whilst you work and whilst you sleep. When adhering closely to the body slipping or shifting out of place is impossible, so cannot chafe or pinch. No straps, buckles or springs attached.

Learn how to close the hernial opening as nature intended so the rupture CAN'T come down. Send your name today to Plapao Co., Block 116, St. Louis, Mo., for FREE trial Plapao and the instructive information necessary.

Cured His Piles

Now 88 Years Old, But Works at Trade of Blacksmith and Feels Younger Since Piles Are Gone.

The oldest active blacksmith in Michigan is still pounding his anvil in the town of Homer—thanks to my internal method for curing piles.



Mr. Jacob Lyon, Homer, Mich.

I wish that you could hear him tell of his many experiences with ointments, salves, dilators, etc., before he tried my method. Here is a letter just received from him:

Mr. E. R. Page, Marshall, Mich.

Dear Sir: I want you to know what your treatment has done for me. I had suffered with piles for many years and used suppositories and all kinds of treatments, but never got relief until I tried yours. Am now completely cured. Although I am 88 years old, and the oldest active blacksmith in Michigan, I feel years younger since the piles have left me. I will surely recommend it to all I know who suffer this way. You can use my letter any way you wish and I hope it will lead others to try this wonderful remedy. Yours truly,

J. L. LYON.

Don't let a doctor cut you and don't waste money on foolish salves, ointments, dilators, etc., but send today for a Free Trial of my internal method for the Permanent Cure of Piles.

I especially want to send it to those apparently hopeless cases where all forms of salves, ointments, dilators and other local treatments have failed.

FREE PILE CURE COUPON

E. R. Page.
1203B Page Bldg. Marshall, Mich.

Please send free trial of your Method to:

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Rheumatism

A REMARKABLE HOME TREATMENT GIVEN BY ONE WHO HAD IT.

In the Spring of 1893 I was attacked by Muscular and Sub-acute Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally, I found a treatment that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with rheumatism, some of them 70 to 80 years old, and results were the same as in my own case.

I want every sufferer from such forms of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of getting rid of your rheumatism, you may send the price of it, one dollar, but understand, I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when relief is thus offered you free. Don't delay. Write today. MARK H. JACKSON, No. 21G Durston Bldg., Syracuse, N. Y.

Mr. Jackson is responsible. Above statement true.

In Ye Olden Time

hoop skirts were worn by those who first asked the druggist, and insisted on having the genuine Golden Medical Discovery put up by Dr. Pierce over fifty years ago. Dress has changed very much since then! But Dr. Pierce's medicines contain the same dependable ingredients. They are standard today just as they were fifty years ago and never contained alcohol.

Dr. Pierce's Golden Medical Discovery for the stomach and blood cannot be surpassed by any remedy today.

At this time of the year some people feel "all out of sorts"—their vitality is at a low ebb—the blood becomes surcharged with poisons! The best blood medicine and tonic is called Dr. Pierce's Golden Medical Discovery. It puts vim, vigor, vitality into the blood. Try it. This is what folks say about it:

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"Dr. Pierce's Pleasant Pellets I have used exclusively in my home whenever a purgative medicine has been needed and I can recommend them very highly as an efficient remedy for sluggish liver, biliousness and sick-headache."—MRS. O. F. HENDERSON, 1106 31st Street.

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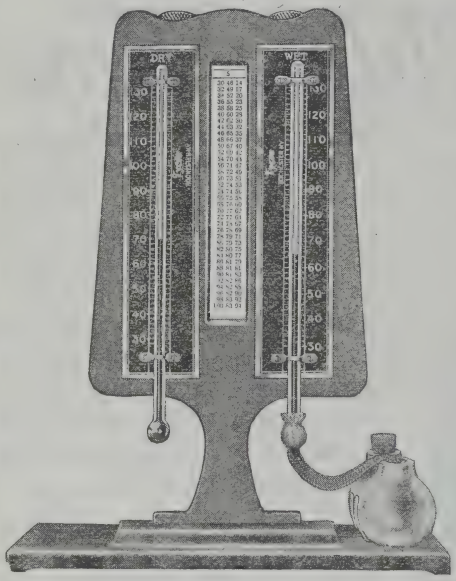
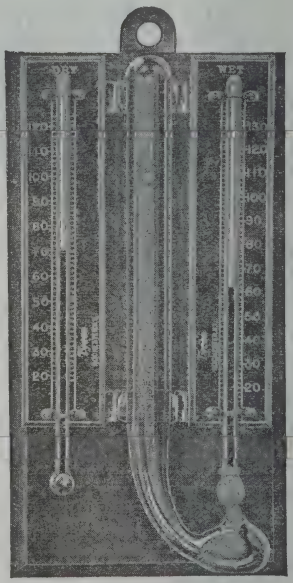


Standard Wet and Dry Bulb Hygrometer, made on gray metal stand for shelf or mantel. This instrument is graceful in form, durable for service and an ornament in any home. The **best** real "rain glass", also needed in the sick room, in hot houses, and anywhere where the percentage of humidity is an important factor. **The best.**

Price postpaid, $11.00.



High Grade Mason Hygrometer, same make as above, but made to hang on the wall. A strictly high grade instrument.

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See page eight for family Hygrometer.

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And you cannot avoid the same result, if you buy **Unknown Remedies.** But wise people buy only remedies which stood the acid test of time. If they suffer from poor appetite, constipation, flatulence, headache, nervousness, or other stomach trouble, they go to the drug store and buy only

THE ORIGINAL

TRINER'S BITTER WINE

which has been tested by thousands and thousands of patients during last thirty years and found always absolutely reliable.

Triner's Bitter Wine is a faithful friend. Its bottle and label and name are simple, but the intrinsic worth is rich. Imitations only enhance the real value of the original Triner's Bitter Wine. Triner's remedy has been awarded the highest prizes, gold medals and grand prix, at 9 international expositions in Paris, London, Rome, Brussels, San Francisco, Panama, etc.,—the imitations cannot show any such acknowledgment of merits.

Triner's Bitter Wine is very palatable and acts without griping. It cleans the intestines, helps digestion and restores appetite.

Gold Medal

San Francisco, 1915

Other excellent remedies:

Triner's Liniment for rheumatism, neuralgia, lumbago, sprains. **Triner's Cough Sedative** for coughs and colds. **Triner's Angelica Bitter Tonic,** etc. At all drug stores and dealers in medicines.

JOSEPH TRINER COMPANY,

1333-1345 S. Ashland Ave.,

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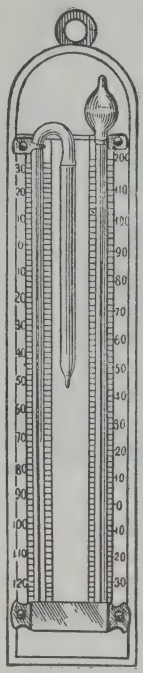
Grand Prix

Panama, 1916



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Some dealers ask $4.00 or $5.00 for this grade. Our price is only, postpaid, 10 inch size,

$2.50

Maximum and Minimum. Records its readings, complete with magnet for resetting. 10 inch size,

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(See cut at left.)

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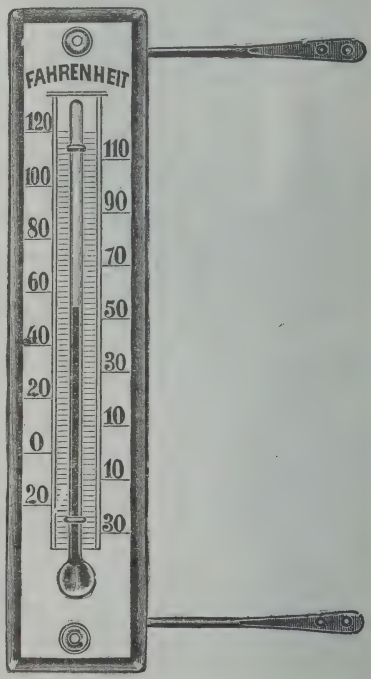

It is not always easy to get a true reading for out of doors in cold weather. To make this easier, we offer this sash thermometer, to be fastened with brackets to the outside of the window sash, the instrument being in full sight outside the glass. It is made on a fine plate glass base, its transparency enabling one to see directly through it, thus reading it easily. A beautiful instrument. Offered in 10 inch size. Complete with brackets. Postpaid.

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Rheumatism

I Ask Every Reader

of this Almanac who is afflicted with Rheumatism, Lumbago or Neuralgia, to write to me, giving me their name and address, so I can send each one **Free a One Dollar Bottle** of my Rheumatic Remedy. I want to convince Rheumatic sufferers at my expense what Kuhns Rheumatic Remedy will do. I feel sure of it, and I want Rheumatic sufferers to know it and be sure of it before giving me a penny profit.

DON'T TRY TO COAX Rheumatism out through the feet or skin with plasters or cunning metal contrivances. Don't try to TEASE it out with liniments, electricity or magnetism. Don't try to IMAGINE it out with mental science. YOU MUST DRIVE IT OUT, It is in the blood and YOU MUST GO AFTER IT.

This is just what we believe Kuhn's Remedy will do, and that is why it relieves Muscular Rheumatism. **The Rheumatism has to go** if you want to be free from pain and suffering. My remedy relieves the sharp, shooting pains, dull, aching muscles, hot, throbbing, swollen limbs and stiffened joints and relieves them quickly.

I Want To Prove It All to You

If you will only let me do it, I will prove much **in one week,** if you will only write and ask my Company to send you a **one dollar bottle free,** according to the following offer. I don't care what other remedies you have used. If you have not used mine I don't believe you know what a real Rheumatic Remedy will do. **Read our offer below and write to us for a Free ONE DOLLAR BOTTLE immediately.**

D. M. Kuhn

Regular $1.00 Bottle FREE TO TRY

We want you to try Kuhn's Rheumatic Remedy, to learn for yourself as thousands have, that Rheumatism can be relieved, and we want no profit on the trial. A fair test is all we ask. If you find it is relieving your Rheumatism or Neuralgia, order more to complete your treatment and thus give us a profit. If it does not help you, that ends it. We do not send a small sample vial containing only a thimbleful and of no practical value, but a **full-sized bottle,** selling regularly at drug-stores for **one dollar each.** This bottle is heavy and we must pay Uncle Sam to carry it to your doors. **You must send us 25 cents** to pay postage mailing case and packing, and this full-sized One Dollar Bottle will be promptly sent you free, everything prepaid. **There will be nothing to pay on receipt or later.**

Send This Coupon

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I have Rheumatism and want a dollar bottle of Kuhn's Rheumatic Remedy free as advertised, I enclose 25 cents to pay postage, packing, mailing case, etc. The dollar bottle must be sent entirely free, with everything prepaid.

NAME .....

TOWN .....

STATE .....

Street or
R. F. D. .....

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Also called Tetter, Salt Rheum Pruritus, Milk Crust, Water Poison, Weeping Skin, etc.

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Eczema Specialist for 15 Years,

For fifteen years I have been treating one disease alone, ECZEMA. I have handled over one million cases. I do not pretend to know it all, but I am convinced the disease is due to an excess of acid in the blood, and closely related to rheumatism and cancer. **This acid must be removed.**

Eczema is called by some people Itch, Tetter, Salt Rheum, Pruritus, Milk Crust, Weeping Skin, etc. I am fully convinced Eczema is a curable disease. and when I say it can be **cured,** I mean just what I say—C-U-R-E-D, and not merely patched up for a while to return worse than before. It makes no difference what other doctors have told you, or what all you have tried, all I ask is just a chance to prove to you that this vast experience has taught me a great deal that would be of help to you. If you will write me today I will send you a free trial of my mild, soothing, guaranteed treatment that will do more to convince you than I or anyone else could in a month's preaching. It's all up to you. If you suffer any more with eczema and refuse to merely write to me for free trial, just blame yourself. No matter where you live, I have treated your neighbors. Merely dropping me a postal today is likely to give you more real comfort in a week than you ever expected to enjoy again. Do it right now, your very life may be at stake.

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Reference:
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Send this notice to some poor sufferer from eczema. It will be a kind act by you.

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Send Five (5c) cents for sample book and interesting proposition to those who will introduce either of these books.

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Brings restful relief, comfort, ability to do things, health and strength.

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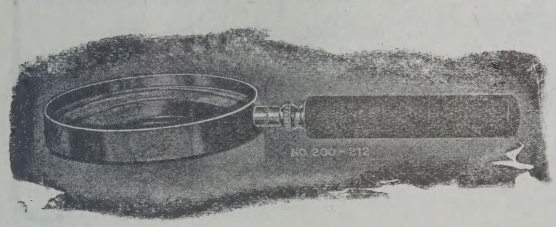

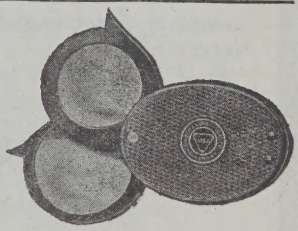

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